DPR for Setting Up of Central University, Andhra Pradesh

FINAL REPORT

November 2016
(Updated in view of IFD, MHRD Requirements)

Submitted to:

Ministry of Human Resource Development
Department of Higher Education
Government of India
New Delhi

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EXECUTIVE SUMMARY OF CENTRAL UNIVERSITY

1. INTRODUCTION

1.1. The Andhra Pradesh Reorganization Act 2014, for the bifurcation of the existing state of Andhra Pradesh, into the States of Andhra Pradesh and Telengana, has received the assent of the President of India on 1st March, 2014 and the same has been enacted from 2nd June, 2014. As per the Schedule 13 to the Act, the Government of India is required to establish Institutions of National Importance in the 12th and 13th Plan periods in the residual State of Andhra Pradesh, one of them being a Central University.

1.2. There are 46 Central Universities across India, and the Central University of Andhra Pradesh is the 47th Central University. All new Central Universities are governed by the Central Universities Act, 2009, which regulates their purpose, powers governance etc. Central university come under the purview of the Department of Higher Education, Ministry of Human Resource Development. The Central Universities are recognized by the University Grants Commission (UGC), which draws its power from the University Grants Commission Act, 1956.

1.3. A Detailed Project Report (DPR) has to be prepared for setting up Central University, Andhra Pradesh and for allocations of funds for its establishment. Therefore, MHRD desires that the cost estimate for setting-up of the proposed new Central University may be worked out to initiate the process of establishing the above Institute.

1.4. In this context, MHRD has requested EdCIL for its technical as well as consultancy services to prepare a DPR for Central University, Andhra Pradesh.

1.5. EdCIL Project Team visited proposed site of Central University, Andhra Pradesh and collected information about local and specific conditions/ provisions and understood the existing and proposed setup & facilities there.

2. CENTRAL UNIVERSITY, ANDHRA PRTADESH- LOCATION

2.1. Central University, Andhra Pradesh is proposed to be established in the district of Ananthapuramu. The Project site of 502.95 acres is located in Village Janthaluru of Ananthapuramu District of Andhra Pradesh. Connectivity to the site is good as the approach road is touching the boundary of the site of Central University. The distance from Ananthapuramu to the proposed site is approximately 20 km and it takes approx. 30 minutes from the city of Ananthapuramu.

3. CENTRAL UNIVERSITY, ANDHRA PRTADESH – STUDENT STRENGTH

3.1. The teaching and other academic activities at Central University, Andhra Pradesh is to be carried out under the aegis of **5 constituent Schools of Study**. There will be Baccalaureate, Post Graduate Diploma, Master's and Doctoral levels courses under these 5 Schools of study under **11 departments**. Total **4508 students** are proposed for initial **7 years** of operation of Central University, Andhra Pradesh. As construction work would take 3-4 years, for first 3 years courses will be run in the Transit Campus. Details of students for different departments under various School of study are provided below in Table 1.

Table 1: Year Wise Student Strength of Central University - Andhra Pradesh

S.No.	Department	Duration	Intake	Transit Campus			Permanent Campus			
				F.Y. 2017-18	F.Y. 2018-19	F.Y. 2019-20	F.Y. 2020-21	F.Y. 2021-22	F.Y. 2022-23	F.Y. 2023-24
	A. SCHOOL OF ARTS, HUMANITIES AND SOCIAL SCIENCES									
1	**Economics**									
	B.A.(Hons.)	3	80	40	80	120	160	200	240	240
	M.A.	2	80	0	0	0	80	160	160	160
	Total (Economics)			40	80	120	240	360	400	400
2	**Psychology**									
	B.A. (Hons.)(Applied Psychology)	3	60	0	0	0	60	120	180	180
	M.A. Applied Psychology	2	50	0	0	0	0	0	50	100
	P.G. Diploma in Sports Psychology	1	50	0	0	0	0	50	50	50
	P.G. Diploma in Counselling and Guidance	1	50	0	0	0	0	0	50	50
	Total (Psychology)			0	0	0	60	170	330	380
3	**Political Science**									
	B.A. (Hons.) (Political Science)	3	80	0	0	80	160	240	240	240
	M.A. (Political Science)	2	80	0	0	0	0	0	80	160
	Total (Political Science)			0	0	80	160	240	320	400
4	**Geography**									
	B.A. (Hons.) (Geography)	3	60	0	0	0	0	60	120	180
	M.A. (Geography)	2	50	0	0	0	0	0	50	100
	Total (Geography)			0	0	0	0	60	170	280
	Ph.D for School of Arts , Humanities and Social	3	18	0	0	0	18	36	54	54

S.No.	Department	Duration	Intake	Transit Campus			Permanent Campus			
				F.Y. 2017-18	F.Y. 2018-19	F.Y. 2019-20	F.Y. 2020-21	F.Y. 2021-22	F.Y. 2022-23	F.Y. 2023-24
	Sciences									
	Total (1+2+3+4)			40	80	200	478	806	1104	1514
	B. SCHOOL OF INTERDISCIPLINARY AND APPLIED SCIENCE									
5	Applied Medical Sciences									
	M.Sc. (Applied Medical Science)	2	40	0	0	0	0	0	40	80
	M.Sc. (Imaging Technology)	2	40	0	0	0	0	40	80	80
	Total (Applied Medical Sciences)			0	0	0	0	40	120	160
6	Biomedical Sciences									
	M.Sc. (Nuclear medicine)	2	40	0	0	0	40	80	80	80
	M.Sc. (Radiation Therapy)	2	40	0	0	0	0	0	40	80
	Total (Biomedical Sciences)			0	0	0	40	80	120	160
	Ph.D for School of Interdisciplinary and Applied Sciences	3	8	0	0	0	0	8	16	24
	Total (5+6)			0	0	0	40	128	256	344
	C. School of language									
7	Foreign Languages									
	B.A. (Hons.) Spanish	3	80	40	80	120	160	200	240	240
	M.A. Spanish	2	60	0	0	0	60	120	120	120
	B.A. (Hons.) English	3	80	0	0	80	160	240	240	240
	M.A. English	2	60	0	0	0	0	0	60	120
	Total (Foreign Languages)			40	80	200	380	560	660	720
8	Indian Languages									
	B.A. with Telgu	3	80	40	80	120	160	200	240	240

S.No.	Department	Duration	Intake		Transit Campus			Permanent Campus			
					F.Y. 2017-18	F.Y. 2018-19	F.Y. 2019-20	F.Y. 2020-21	F.Y. 2021-22	F.Y. 2022-23	F.Y. 2023-24
	M.A. Telgu	2	60		0	0	0	60	120	120	120
	B.A.with Hindi	3	80		0	0	80	160	240	240	240
	M.A.Hindi	2	60		0	0	0	60	120	120	120
	Total (Indian Languages)				40	80	200	440	680	720	720
	Total (7+8)				80	160	400	820	1240	1380	1440
	D. VOCATIONAL STUDIES AND SKILL DEVELOPMENT										
9	B.A. (Vocational studies)-Tourism and Travel Management)	3	50		50	100	150	150	150	150	150
	B.A. (Vocational studies)-Renewable Energy Management	3	50		0	0	0	50	100	150	150
	B.A. (Vocational studies)-Retail Management and IT	3	50		0	0	0	0	50	100	150
	Total (9)				50	100	150	200	300	400	450
	E. SCHOOL OF COMMERCE AND MANAGEMENT										
10	Commerce										
	B.Com.	3	80		0	0	0	80	160	240	240
	M.Com.	2	60		0	0	0	0	0	60	120
	Total (Commerce)				0	0	0	80	160	300	360
11	Management										
	B.B.A.	3	80		0	0	0	0	80	160	240
	M.B.A.	2	80		0	0	0	80	160	160	160
	Total (Management)				0	0	0	80	240	320	400
	Total (10+11)				0	0	0	160	400	620	760
	TOTAL STUDENT STRENGTH				170	340	750	1698	2874	3760	4508

4. CENTRAL UNIVERSITY, ANDHRA PRTADESH – HUMAN RESOURCE REQUIREMENT

Central University human resource requirement is categorized in Teaching staff and non-teaching staff. Total 164 human resource is required for Central University, which includes a Vice –Chancellor, 77 teaching staff and 86 non-teaching staff.

4.1 **Teaching Staff:** For Central University, Andhra Pradesh, **7 faculties (1 Professor, 2 Associate Professor and 4 Assistant Professor)** are proposed for each department. There are **total 11 departments** proposed for Central University and hence **77 faculties** are proposed for Central University, Andhra Pradesh for initial establishment. The faculty strength can be increased as per the requirement of the Central University. Year -wise phasing of teaching faculty is given in Table 2.

Table 2: Year-wise Requirement of Teaching Staff

	Transit Campus			Main Campus			
Academic Programme	**F.Y. 2017-18**	**F.Y. 2018-19**	**F.Y. 2019-20**	**F.Y. 2020-21**	**F.Y. 2021-22**	**F.Y. 2022-23**	**F.Y. 2023-24**
Professors	1	1	2	4	6	9	11
Associate Professors	2	3	5	8	13	18	22
Assistant Professors	3	5	9	17	25	36	44
Total (Faculty)	**6**	**9**	**16**	**29**	**44**	**63**	**77**

4.2. Non-teaching Staff: As per UGC norms, **teaching to non-teaching faculty ratio is 1:1.1**. The **total non-teaching staff or Central University is 86**. Year -wise phasing of non-teaching staff is given in Table 3.

4.3 In addition 100 outsourcing staff is also proposed for Central University.

Table 3: Year-wise Requirement of Non-Teaching Staff

	Transit Campus			Main Campus			
POSTS	**F.Y. 2017-18**	**F.Y. 2018-19**	**F.Y. 2019-20**	**F.Y. 2020-21**	**F.Y. 2021-22**	**F.Y. 2022-23**	**F.Y. 2023-24**
Category-I							
Statutory Officers							
Librarian	1	1	1	1	1	1	1
Deputy Librarian	1	1	1	1	1	1	1
Assistant Librarian	1	1	1	2	2	3	3
Registrar	1	1	1	1	1	1	1
Controller of Examination	1	1	1	1	1	1	1
Finance Officer	1	1	1	1	1	1	1
Category-II							
II-A	1	1	1	3	4	7	9
II-B	1	1	2	3	5	7	9
II-C	1	1	2	4	6	9	11
Category-III							
III-A	1	1	2	4	7	9	11
III-B	1	1	2	4	7	9	12
Category-IV							
IV-A	0	0	2	4	7	10	13
IV-B	0	0	2	4	7	11	13
TOTAL OF NON - TEACHING STAFF	11	11	19	33	50	70	86

5. CENTRAL UNIVERSITY, ANDHRA PRTADESH – PHYSICAL RESOURCE REQUIREMENT

5.1. The physical resource requirements of Central University, Andhra Pradesh consist of the following:

- Land (including land development, landscaping, boundary fencing and road network);
- Built up Space comprising:
  - (i) Academic and Administrative Complex;
  - (ii) Students Hostels and Amenities;
  - (iii) Academic & Support Staff Residences and Amenities;
  - (iv) General Amenities --- Common to Students, Academic & Support Staff; and
- Utilities including electric supply, stand by diesel/solar generation, water supply and rain water harvesting & recycling system, sewerage disposal & treatment, disposal system for solid / biological / chemical / radio-active waste, and drainage;
- Library & Information Resources;
- Equipment including instructional equipment, research equipment, workshop equipment, kitchen equipment, engineering services equipment etc.; and
- Furniture.

The total built-up area for central University, Andhra Pradesh is **95232 sq.m.**The break-up of the area is given in Table 4.

Table 4: Area Details of different Physical Resources

S.No.	Name of Building	Total Covered Area in sq mtrs
	Academic Complex	
1	School of Arts, Humanities and Social Sciences	7,262
2	School of Interdisciplinary and Applied Sciences	2,562
4	School of Languages	6,014
5	School of Vocational Education and skill development	2,235
6	School of Commerce and Management	3,719
8	Central Administrative Building	6,000
9	Central Library	4,000
10	Computer Centre	1,200
11	Conference complex/ Auditorium	3,700
	Residential Complex	
12	Guest house	1,840
13	Health Centre and Other Amenities	1,500
14	Student Hostels and Apartments (including warden & staff residences)	40,000
15	Faculty Housing	11,200
16	Community Centre/commercial facilities for staff	1,500
17	Student Activity Centre /Cafeteria/Shopping/Canteen	2,500
	Grand Total	**95,232**

5.2. The setting up of new campus for Central University has been envisioned as an energy efficient and environmentally sustainable campus. 3 stars GRIHA rating (Green Rating for Integrated Habitat Assessment – a green building rating system) for Central University campus at Andhra Pradesh, has been suggested.

6. CENTRAL UNIVERSITY, ANDHRA PRTADESH – FINANCIAL REQUIREMENT

6.1. The financial estimates have been categorized under three different broader categories namely:-

a) Transit Campus Cost

b) Capital Cost of the New Campus

b) Recurring cost of the New Campus.

TOTAL PROJECT COST FOR CENTRAL UNIVERSITY, ANDHRA PRADESH IS RS. 902.07 CRORE (detail in Table 5 below)

Table 5 : Project Cost Estimations (Rs in crores)

S.No.	Particulars	Total Amount (Rs. In Crores)
1	Transit Campus Cost	**48.26**
2	Capital Cost for Main Campus	**711.38**
3	Recurring Cost for New Campus	**142.42**
	Total	**902.07**

6.2. The detailed break up with year-wise phasing of total project cost of **Rs. 902.07crore** is given in Table 6 below:

Table 6: Project Cost Estimations Year wise Plan (Rs in crores)

	Particulars	TOTAL	F.Y. 2017-18	F.Y. 2018-19	F.Y. 2019-20	F.Y. 2020-21	F.Y. 2021-22	F.Y. 2022-23	F.Y. 2023-24
1	TRANSIT CAMPUS COST	48.26	10.37	20.13	17.76	-	-	-	-
2	CAPITAL C OST OF MAIN CAMPUS								
	Cost of Building (A)	535.57	140.08	157.28	125.44	76.89	35.88	-	-
	Cost of Equipment & Furniture (B)	87.49	-	8.75	26.25	17.50	17.50	17.50	-
	Capital Cost (C=A+B)	623.06	140.08	166.03	151.69	94.39	53.38	17.50	-
	ADD:								
	CONTINGENCY @ 3% (OF 'C' ABOVE)	18.69	4.20	4.98	4.55	2.83	1.60	0.52	-
	PMC OR ANY OTHER CONSULATANCY @6% (OF ' A' above, assumes as inclusive of ST@15%)	32.13	8.40	9.44	7.53	4.61	2.15	-	-
	Service Tax @ 6% (of A above)	32.13	8.40	9.44	7.53	4.61	2.15	-	-
	LABOUR CESS @ 1% (of ' A' above)	5.36	1.40	1.57	1.25	0.77	0.36	-	-
	Sub- Total of Charges (D)	88.32	22.41	25.43	20.86	12.83	6.27	0.52	-
	Total Capital Cost of New Campus (2= C+D)	**711.38**	**162.50**	**191.46**	**172.54**	**107.21**	**59.64**	**18.02**	**-**
3	RECURRING EXPENDITURE OF NEW CAMPUS	142.42	-	-	-	17.73	28.95	41.25	54.49
	GRAND TOTAL (1+2+3+4)	**902.07**	**172.87**	**211.59**	**190.30**	**124.95**	**88.59**	**59.27**	**54.49**

6.2. (a) Transit Campus Cost

The Transit Campus cost is estimated for initial three Financial Years i.e FY 2017-18 TO FY 2019-20 for the transit campus. The total Transit campus cost is **Rs. 48.26 crore**. The detailed break-up is given in Table 7 below:

Table 7: Transit campus cost for Central University, Andhra Pradesh

				Rs. in crore
Particulars	**Total**	**YEARS**		
		F.Y. 2017-18	**F.Y. 2018-19**	**F.Y. 2019-20**
Recurring Cost :-				
Employees Remuneration	8.98	2.14	2.66	4.18
Other Benefit to Employees	0.90	0.21	0.27	0.42
7th PC Provision	2.30	0.55	0.68	1.07
Rent & Maintenance Expenses	4.25	1.05	1.23	1.97
Electricity Expenses	2.15	0.30	0.58	1.27
Generator Running & Maint. Exp.	0.09	0.01	0.03	0.06
General Admn. Expenses	2.63	0.33	0.71	1.59
Hostel Expenses	0.13	0.02	0.03	0.08
House Keeping	0.16	0.02	0.04	0.10
Security Charges	0.45	0.06	0.12	0.27
Total Recurring Cost (A)	22.04	4.70	6.34	11.00
Capital Cost:-				
Equipment Cost	13.97	3.08	7.56	3.34
Furnishing Cost	8.16	1.80	4.41	1.95
Amenities and Setup Expenses	2.28	0.50	1.23	0.54
Shifting Cost of Transit Campus	0.41	-	-	0.41
Total Capital Cost (B)	24.82	5.37	13.20	6.25
Total Cost (A+B)	46.86	10.07	19.55	17.24
Add: Contingencies @3%	1.41	0.30	0.59	0.52
Total Transit Campus Cost	**48.26**	**10.37**	**20.13**	**17.76**

6.2 (b) CAPITAL COST ESTIMATE:

The Total estimated capital cost has been worked out to be **Rs. 711.38 crores** and it is proposed that the Construction Phase will be over by the end of the Fifth Year. The Detailed break-up of estimated expenditure has been shown below in Table 8.

Table 8: Year-wise distribution of Capital Cost

S.No.	Name of Building	Total Covered Area in sq mtrs	Rate per sq mtr	Total (in Rs. Crore)	CPWD cost index	Total cost (in Rs. Crore)	F.Y. 17-18 (in Rs. Crore)	F.Y. 18-19 (in Rs. Crore)	F.Y. 19-20 (in Rs. Crore)	F.Y. 20-21 (in Rs. Crore)	F.Y. 21-22 (in Rs. Crore)	F.Y. 22-23 (in Rs. Crore)	F.Y. 23-24 (in Rs. Crore)
	Academic Complex												
1	School of Arts, Humanities and Social Sciences	7,262	33,947	24.65	1.09	26.87	5.37	13.44	8.06	0.00	0.00	0.00	0.00
2	School of Interdisciplinary and Applied Sciences	2,562	34,200	8.76	1.09	9.55	1.91	4.78	2.87	0.00	0.00	0.00	0.00
4	School of Languages	6,014	34,073	20.49	1.09	22.33	4.47	11.17	6.70	0.00	0.00	0.00	0.00
5	School of Vocational Studies and skill development	2,235	34,326	7.67	1.09	8.36	1.67	4.18	2.51	0.00	0.00	0.00	0.00
6	School of Commerce and Management	3,719	33,933	12.62	1.09	13.75	2.75	6.88	4.13	0.00	0.00	0.00	0.00
8	Central Administrative Building	6,000	35,229	21.14	1.09	23.04	4.61	11.52	6.91	0.00	0.00	0.00	0.00
9	Central Library	4,000	36,387	14.55	1.09	15.86	1.59	4.76	6.35	3.17	0.00	0.00	0.00
10	Computer Centre	1,200	35,520	4.26	1.09	4.65	0.93	2.32	1.39	0.00	0.00	0.00	0.00
11	Conference complex/ Auditorium	3,700	36,135	13.37	1.09	14.57	0.00	4.37	5.83	4.37	0.00	0.00	0.00
	Residential Complex												
12	Guest house	1,840	25,871	4.76	1.09	5.19	0.00	1.56	1.56	1.56	0.52	0.00	0.00
13	Health Center and Other Amenities	1,500	37,717	5.66	1.09	6.17	0.00	0.00	3.08	3.08	0.00	0.00	0.00
14	Student Hostels and Apartments (including warden & staff residences)	40,000	24,523	98.09	1.09	106.92	21.38	32.08	21.38	21.38	10.69	0.00	0.00
15	Faculty Housing	11,200	23,601	26.43	1.09	28.81	5.76	5.76	5.76	5.76	5.76	0.00	0.00
16	Community Centre/commercial facilities for staff	1,500	34,808	5.22	1.09	5.69	1.14	2.28	1.71	0.57	0.00	0.00	0.00
17	Student Activity Centre /Cafeteria/Shopping/Canteen	2,500	34,567	8.64	1.09	9.42	0.00	2.83	2.83	2.83	0.94	0.00	0.00
18	Development of Site					162.00	81.00	32.40	32.40	16.20	0.00	0.00	0.00
19	Allied Provision					59.88	0.00	11.98	11.98	17.96	17.96	0.00	0.00
20	Site Specific Infrastructure					12.50	7.50	5.00	0.00	0.00	0.00	0.00	0.00

S.No.	Name of Building	Total Covered Area in sq mtrs	Rate per sq mtr	Total (in Rs. Crore)	CPWD cost index	Total cost (in Rs. Crore)	F.Y. 17-18 (in Rs. Crore)	F.Y. 18-19 (in Rs. Crore)	F.Y. 19-20 (in Rs. Crore)	F.Y. 20-21 (in Rs. Crore)	F.Y. 21-22 (in Rs. Crore)	F.Y. 22-23 (in Rs. Crore)	F.Y. 23-24 (in Rs. Crore)
	Cost of Building (A)					**535.57**	**140.08**	**157.28**	**125.44**	**76.89**	**35.88**	**0.00**	**0.00**
23	Furniture/Equipment Cost (B)					87.49	0.00	8.75	26.25	17.50	17.50	17.50	0.00
	Capital Cost (C=A+B)					**623.06**	**140.08**	**166.03**	**151.69**	**94.39**	**53.38**	**17.50**	**0.00**
24	Contingency @3% (of C above)					18.69	4.20	4.98	4.55	2.83	1.60	0.52	0.00
25	PMC @ 6% (of A above , assumed as inclusive of ST@15%)					32.13	8.40	9.44	7.53	4.61	2.15	0.00	0.00
26	Service Tax @ 6% (of A above)					32.13	8.40	9.44	7.53	4.61	2.15	0.00	0.00
27	LABOUR CESS @ 1% (OF ' A' ABOVE)					5.36	1.40	1.57	1.25	0.77	0.36	0.00	0.00
	Total Taxes - D					**88.32**	**22.41**	**25.43**	**20.86**	**12.83**	**6.27**	**0.52**	**0.00**
	Grand Total C+D	**95,232**				**711.38**	**162.50**	**191.46**	**172.54**	**107.21**	**59.64**	**18.02**	**-**

Note: Refer Annexure I to XVIII for details of calculation given above.

6.2 (c) RECURRING COST

The Recurring Cost from FY 4 to FY 7 (main campus) for Central University has been estimated to be **Rs. 142.42 crores**. The Recurring cost includes:

a) Employees cost towards On-Roll Staff,

b) Employees cost towards Contractual Staff,

c) Cost of Security services on contractual basis,

d) Cost of Provision of Electricity and Generator Back-up,

e) Cost of General Administrative Expenses and

f) Cost towards Provision of Hostel Facilities**.**

6.3. The Total Recurring Cost of the New Campus is shown below in Table 9.

Table 9: Estimations of Recurring Cost for Central University, Andhra Pradesh (Rs in crores)

Particulars	F.Y. 2020-21	F.Y. 2021-22	F.Y. 2022-23	F.Y. 2023-24	Permanent Campus cost
EXPENDITURE					
Employees Remuneration	7.26	11.28	16.86	21.98	57.39
Other Benefit to Employees	0.73	1.13	1.69	2.20	5.74
7th PC Provision	1.85	2.87	4.28	5.58	14.58
Adjunct Faculty Costs	0.13	0.35	0.14	0.38	0.99
Electricity Expenses	2.97	5.01	6.57	9.20	23.76
Generator Running & Maint. Exp.	0.12	0.21	0.29	0.40	1.02
General Admn. Expenses	3.55	6.05	8.56	11.00	29.16
Hostel Expenses	0.20	0.36	0.51	0.65	1.71
Outsourced Resources					
House Keeping	0.24	0.44	0.61	0.81	2.11
Security Charges	0.69	1.25	1.73	2.29	5.96
Total	**17.73**	**28.95**	**41.25**	**54.49**	**142.42**

Chapter 1

INTRODUCTION

1.1 BACKGROUND

1.1.1 The Andhra Pradesh Reorganization Act 2014, for the bifurcation of the existing state of Andhra Pradesh, into the States of Andhra Pradesh and Telengana, has received the assent of the President of India on 1st March, 2014 and the same has been enacted from 2nd June, 2014. As per the Schedule 13 to the Act, the Government of India is required to establish Institutions of National Importance in the 12th and 13th Plan periods in the residual State of Andhra Pradesh, one of them being a Central University.

1.1.2. There are 46 Central Universities across India as on 15th Jan 2016 according to UGC. The Central University of Andhra Pradesh is the 47th Central University. All new Central Universities are governed by the Central Universities Act, 2009, which regulates their purpose, powers governance etc. Central university comes under the purview of the Department of Higher Education, Ministry of Human Resource Development. The Central Universities are recognized by the University Grants Commission (UGC), which draws its power from the University Grants Commission Act, 1956.

1.1.3 A Detailed Project Report (DPR) has to be prepared for setting up Central University, Andhra Pradesh and for allocations of funds for its establishment. Therefore, MHRD desires that the cost estimate for setting-up of the proposed new Central University may be worked out to initiate the process of establishing the above Institute.

1.1.4 In this context, MHRD has requested EdCIL for its technical as well as consultancy services to prepare a DPR for Central University, Andhra Pradesh.

1.2 SCOPE OF THE PRESENT STUDY

1.2.1 The scope of the present work relates to the preparation of a Detailed Project Report for establishment of the proposed Central University in the State of Andhra Pradesh. The report shall present a composite account of the vision, mission, and objectives of the Institute, the phase-wise academic plan, the human and infrastructure resource plan and the financial plan for the Institute. The cost estimates for the Institute will be prepared keeping in view the latest CPWD norms integrating environment related issues, the green building norms and green rating for integrated assessment (GRIHA).

1.2.2 The specific terms of references for preparation of the Report include the following:

- Academic & Human Resource Plan for Central University Andhra Pradesh;
- Specific features for Central University Andhra Pradesh in view of environment related issues/ green building / GRIHA norms;
- Estimates for Infrastructure Cost.;
- Estimates for Equipment Cost;
- Estimates for Recurring Expenditure; and
- Estimation of total project cost in terms of capital and recurring cost for Central University Andhra Pradesh.

1.3 PROJECT METHODOLOGY

1.3.1 For execution of the project, Ed. CIL constituted a Project Implementation Team comprising of:

- Prof. Nirendra Misra, University Governance and Planning Expert;
- Mr. Ankush Agarwal, Architect;
- Mr. Sanjeev Jayaswal, Education Finance Expert;
- Mr. Ajay Govind Bhatt, Environment Impact Assessment Expert; and
- Ms. Raj Shree Singh, Project Manager, Technical Assistance Division, EdCIL.

1.3.2 The PIT made a visit to the proposed site of Central University in Ananthapuramu District on 17th -18th Dec, 2016.

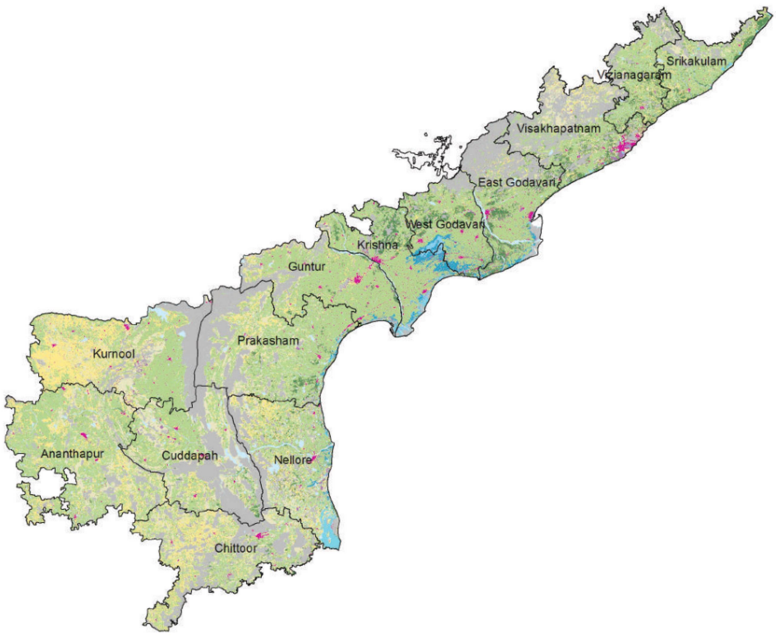
Chapter 2

THE STATE OF ANDHRA PRADESH: OPPORTUNITES

2.1. INTRODUCTION

2.1.1. The State of Andhra Pradesh presently consists of 13 districts, spread in an area of 1,60,000 sq km has a population of 4.9 crores (2011 census). The new capital of Andhra Pradesh will be Amaravathi, after the historical capital of the Satavahana dynasty in second century A.D, located between Vijayawada and Guntur.

2.1.2. Andhra Pradesh is endowed with affluence of natural resources- forest, river, minerals, fertile land with different soils and climatic zones, fossil (natural oil and gas) as well as renewable energy sources- thermal, wind, solar. Further, a sea coast of nearly 1000 km gives Andhra innumerable opportunities for its utilization. Abundant water supply from the two rivers- Krishna and Godavari, rich agricultural



land owing to their delta, fisheries have been attributed to the prosperity of the Coastal Andhra.

Figure 2.1: District map of Andhra Pradesh

2.1.3. Andhra Pradesh is one of the storehouses of mineral resources in the country. Andhra Pradesh with varied geological formations, contain rich and variety of industrial minerals and building stones. Andhra Pradesh is listed top in the deposit and production of mica in India. Minerals found in the state include limestone, reserves of oil and natural gas, manganese, asbestos, iron ore, ball clay, fire clay, gold diamonds, graphite, dolomite, quartz, tungsten, steatite, feldspar, silica sand. It has about one third of India's limestone reserves and is known for large exclusive deposits of barites and galaxy granite in the international market. Large quantity of natural gas in KG Basin is expected to provide rapid economic growth.

2.1.4. Growth in the state of Andhra Pradesh was mainly driven by agriculture, industry and service sectors. The priority areas of the state in the economy include food processing, software export, financial services, electronics, power and tourism.

2.1.5. Government of Andhra Pradesh have identified the following sectors for business investment:

- Agro and food processing
- Automobile
- Aerospace
- Electronics & IT
- Energy
- Leather
- Life Sciences
- Mineral based industries
- Petroleum and petrochemicals
- Textile and apparels

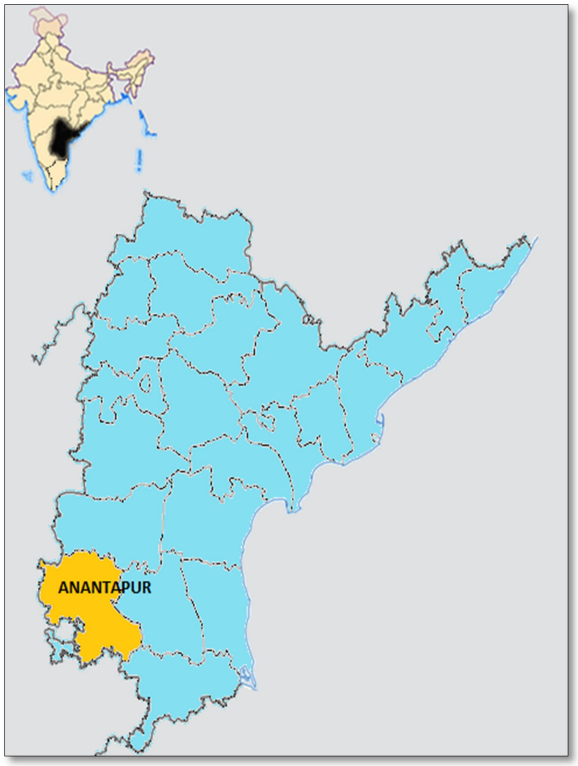
2.2. ESTABLISHMENT OF CENTRAL UNIVERSITY IN ANDHRA PRADESH

2.2.1. Central University, Andhra Pradesh is proposed to be established in the district of Ananthapuramu. It is the largest district in terms of area in Andhra Pradesh and 7th largest district in India respectively.

Ananthapuramu is the southern-most district of the Rayalseema region of Andhra Pradesh.

2.2.2. Ananthapuramu district lies between North latitude 13° 40’ to 16° 15’ and East Longitude 70° 50’ to 78° 38’. The district is spread over an geographical area of 19,197 sq.km. Project site is located between 14°45'08.70"N and 77°39'08.28"E. The district occupies the southern part of the State and is bounded on the north by Bellary district of Karnataka State and Kurnool district of Andhra Pradesh, on the East by Cuddapah and Chittoor districts of Andhra Pradesh and on the South and West by Karana State. The population density, which was 54 persons per sq.km during 1901, has risen to 213 persons per sq.km as per 2011 census.

2.2.3. Ananthapuramu is an important education centre with educational schools, colleges and universities namely Sri Krishnadevaraya University, JNTU Anantapur, Sri Sathya Sai University, Government Medical College, Srinivasa Ramanujan Institute of Technology etc.. are reputed colleges in Ananthapuramu district.



2.2.4. The Project site of 502.95 acres is located in Village Janthaluru of Ananthapuramu District of Andhra Pradesh. Connectivity to the site is good as the approach road is touching the boundary of the site of Central University. The distance from Ananthapuramu is approximately 20 km and it takes approx. 30 minutes from the city of Ananthapuramu. Chapter 8 covers a detail of the site and its surroundings.

2.2.5. Establishment of Central University in the newly formed State of Andhra Pradesh, would be aimed to create opportunities for eligible youths of the region. The curriculum of the university will have demand driven multidisciplinary courses, integrating teaching and research, as well as offering short term and long term vocational courses, in partnership and collaboration with the above mentioned industries and sectors.

The Central University will also have focus on 'Study in India Program', attracting foreign students with the possibility of credit transfer.

Chapter 3

VISION, MISSION, VALUES AND OBJECTIVES

3.1 VISION

To be an institution of excellence in the domain of higher education committed to providing an environment conductive to learning, offer outstanding, relevant academic programs, promote individual well-being and professional development for a knowledge society and augment economic, social, cultural and environmental progress of the people of the State of Andhra Pradesh, the Nation and the World.

3.2 MISSION

To create and promote a climate conducive to the intellectual, cognitive, moral, and psychosocial growth of all community members, providing seamless education through the pioneering use of technology, in partnership with industry and society to promote research, discovery and entrepreneurship and to prepare its students to be responsible citizens of the world of the 21st Century by developing in them the desirable knowledge, skill and attitudes in the domain of work and by instilling in them a culture for excellence and holistic growth in all facets of life.

3.3 VALUES

- Seeking quality, excellence, innovation and continual learning in all its does;
- Liberating talent, enthusiasm and commitment;
- Trusting, equal opportunity, non-discriminatory, challenging, exciting work environment;
- An operating style based on openness, direct communication, care & respect towards all people involve; and

- A culture which is trend-setting, open-minded, integrative, value-bound and where meritocracy, integrity and intellectual honesty is the norm.

3.4 OBJECTIVES:

The objectives of the University are:

- To disseminate and advance knowledge by providing instructional and research facilities in such branches of learning as it deems fit;
- To make provisions for courses in humanities, social sciences, science, language and vocational education in its educational programmes;
- To take appropriate measure for promoting innovations in teaching-learning process; interdisciplinary studies and research;
- To achieve excellence in teaching, research and extension through emphasizing 'quality' in whatever it undertakes;
- To establish skill development departments for providing skill set education through course of various durations;
- To educate and train manpower for the development of the country,
- To enhance purposeful education with 'human values' and social responsibility by participating in community outreach programs;
- To establish linkages with industries for the training and placement;
- To pay special attention to the improvement of the social and economic conditions and welfare of the people, their intellectual, academic and cultural development;
- To encourage a high level of participation in the creation, promotion, and enforcement of standards by all members of the community;
- To educate all community members about responsible citizenship based on ethical and environmental best practices.
- To address the environmental concerns of the planet through teaching, research and project development.

Note: The Vision, Mission, Values and objectives provided in this chapter is only for preparation of DPR and may change as per the Academic Council of the Central University, Andhra Pradesh.

Chapter 4

GOVERNANCE AND EXECUTIVE MANAGEMENT

4.1. INTRODUCTION

4.1.1. As new Central Universities are governed by **The Central University Act, 2009,** the Central University of Andhra Pradesh will also be governed by the said Act and a four-tier interlinked system of governance and executive management as indicated hereunder in Table 4.1 is provided for the University:

Table 4.1: Schematic of the inter-linked system of Governance and Executive & Operations Management

Tier	Task	Authority
IV	**Strategic Supervision**	**The COURT** on behalf of the promoters and the stakeholders.
III (a, b)	**Governance** * Strategic & Policy Mgt. * Planning for the Future	**The EXECUTIVE COUNCIL** supported by the **Academic Council** and the **Finance Committee (FC)**.
II (a, b)	**Executive Management** * Execution of Present Plans * Coordination & Synergistic Control	**The Vice Chancellor** supported by the Pro-Vice Chancellor, the Deans of the Schools of Study, the functional Deans (Student Welfare / Academic Affairs / Admission / R & D / Faculty Affairs), the Registrar and the Finance Officer.
I (a, b)	**Operations Management** * Line Function Management * Support Function Management	* **The Deans, Schools of Study** supported by the Heads of Departments subject to policy guidance by the respective School Boards * **The Registrar / the Finance Officer / the Superintending Engineer-cum-Estate Manager** assisted by the Deputy Registrars and the Support Staff of the Registry.

The four-tier structure represented in Table 4.1 ensures:

- **Strategic Supervision:** Being independent of strategic & policy management can be conducted with objectivity with a view to protect and enhance stakeholder value and to ensure accountability;
- **Strategic & Policy Management:** Being independent of executive management remains focused towards providing the principle-centered leadership to enable the University to meet the challenges of tomorrow and to set policies and strategies to drive it forward towards a position of leadership in the realm of national security;
- **Executive Management:** Being free from responsibilities for day-to-day operations can focus on coordination and synergistic control and execution of present plans; and
- **Operations Management** : Of both line and support functions being free from executive management of the University as a whole can focus on enhancing the quality, efficiency and effectiveness of individual line / support functions.

4.2. AUTHORITIES OF THE UNIVERSITY

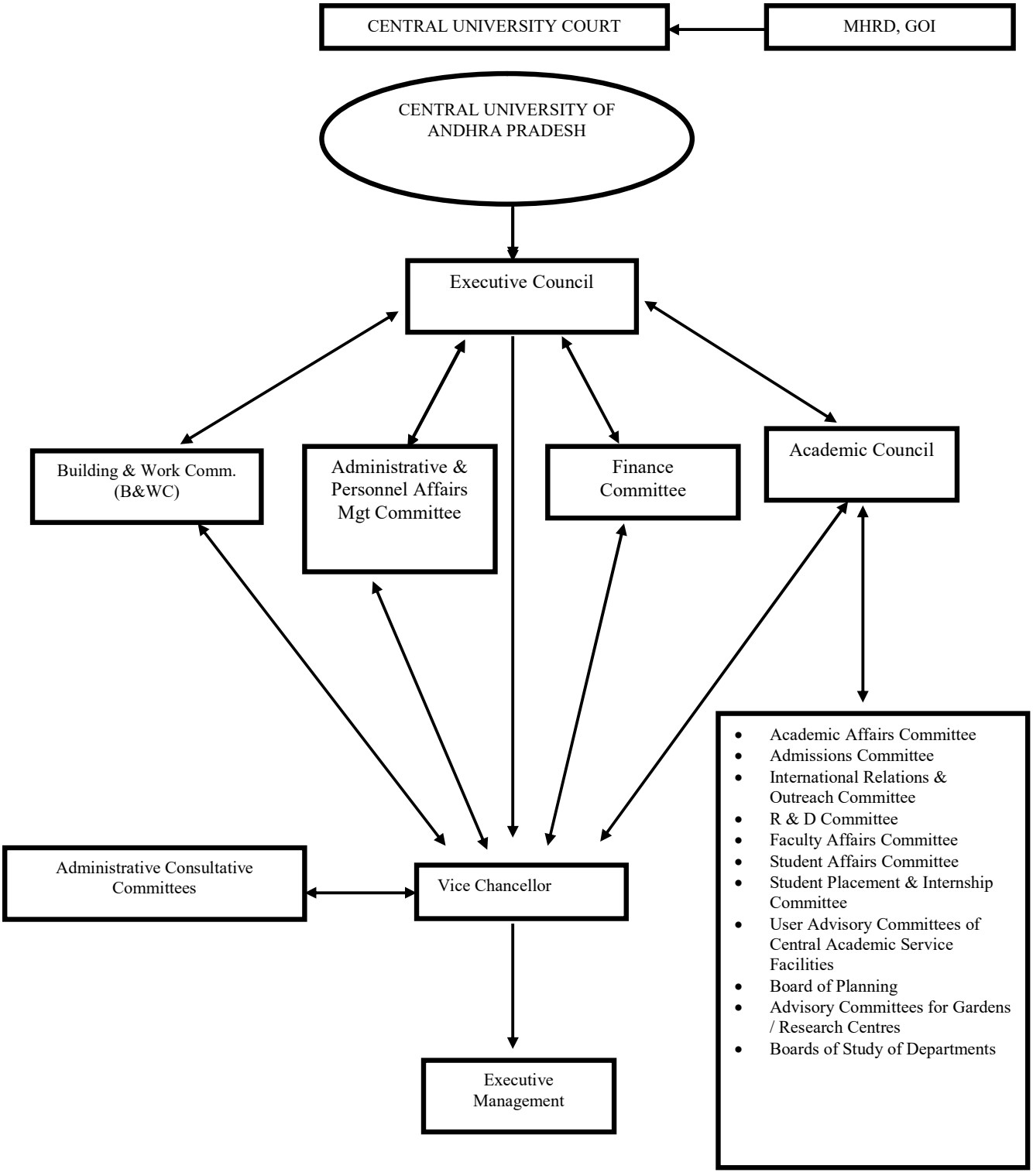
(a) The above cited Act and Statutes provide for the constitution of the Authorities listed hereunder, and diagrammatically represented in Fig. 4.1, to carry out the functions of strategic supervision and strategic & policy management of Central University:

(i) The Court;
(ii) The Executive Council (EC);
(iii) The Academic Council (AC);
(iv) The Finance Committee (FC);
(v) The School Boards; and
(vi) The Boards of Study.

(b) The composition and powers / functions of the above listed Authorities are provided under various clauses of the above cited Act and Statutes as indicated hereunder:

Authority	**Reference to**
Court	Clauses 19 & 20(2) --- The Central University Act, 2009.
Executive Council	Clauses 19 & 21 --- The Central University Act, 2009; Clauses 11 & 12 --- The Central University Statutes.
Academic Council	Clauses 19 & 22 --- The Central University Act, 2009; Clauses 13 & 14 --- The Central University Statutes.
Finance Committee	Clauses 19 & 24 --- The Central University Act, 2009; Clauses 17(1, 5 & 6) --- The Central University Statutes.
School Boards	Clauses 43 --- The Central University Statutes.
Boards of Study	Clause 19 --- The Central University Act, 2009; Clauses 16 --- The Central University Statutes.

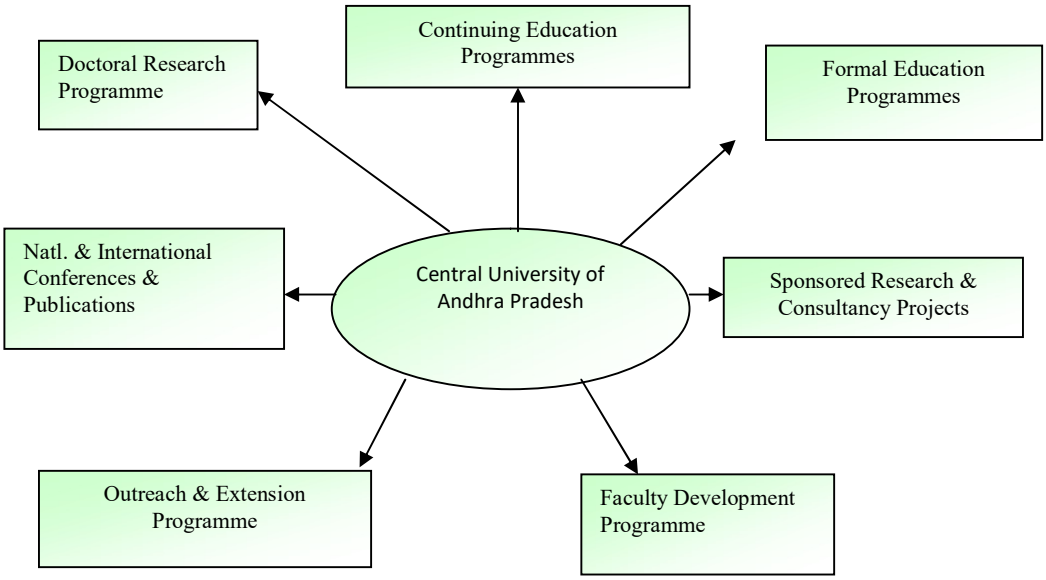
Fig 4.1: Governance Structure: Central University of Andhra Pradesh



4.3. EXECUTIVE MANAGEMENT

4.3.1 The Central University of Andhra Pradesh is expected to carry-out the broad set of activities diagrammatically presented hereunder in Fig. 4.2.

Fig 4.2: Academic Activities of Central University of Andhra Pradesh



4.3.2 In order to carry out these multifarious set of activities there is a need to have in place an executive management system which is (i) self-managed by objectives; (ii) provides for appropriate decentralization of authority and responsibility for decision-making; (iii) places a premium on transparency and the building of harmonious relationship with and between all stakeholders and (iv) is in consonance with the core principles of governance for the Institute. Furthermore, the design of the organizational framework needs to be totally flexible and thin and sharp in its functioning. It should provide for information access and sharing through a computerized MIS and an inter-office communication system. Also the management hierarchy needs to be thin and straight with the role & responsibilities of key functionaries and the reporting structure being clearly spelt out.

4.3.3 Keeping the system guidelines indicated in sub-clause 4.3.2 in mind it is proposed that the day-to-day executive managements of the Institute vest in a Vice Chancellor to be appointed as the University's Controller of Examinations by the Visitor in

accordance with the provisions in clause 2 of the Central University Statutes. It is envisaged that the Vice Chancellor shall be responsible to the Executive Council for the proper functioning of the University and for implementation of decisions of various Authorities of the University. It is further proposed that the responsibilities of the Vice Chancellor shall cover all aspects of the operation of the university which may be broadly classified as line operations and support operations as listed hereunder in Table 4.2.

Table 4.2: Line and Support Operations at the Central University of Andhra Pradesh

LINE OPERATIONS	SUPPORT OPERATIONS
• Student Admission; • Teaching and Academic Research; • Examinations; • Applied and Sponsored Research; • Consultancy • Student Internships; • Cross-curricular (Generic Skills) Activities; • Student Discipline; • Non-academic Student Affairs including Management of Student Halls of Residence and Student Co-curricular Activities; • Student Placement; • Library & Information Resource Services; • Computing Services including the Voice, Data & Picture Communication Network / MIS / Web Communication; • Virtual Learning Facilities; • Continuing Education Programmes; • Faculty Development Programmes; • Student Placement; • Student Guidance & Counselling; • Student Mentoring; • Resource Planning & Mobilization; • Linkage with research & higher education institutions; and • Linkages with the MHRD / UGC / AICTE / User Industry etc.	• Accounts & Finance including Budgeting and Audit; • Personnel & Administration Matters including Faculty & Staff Recruitment / Discipline / Welfare; Staff Development; • Works & Estate Management; • Stores & Purchase; • Public Relations; • Vigilance & Legal Matters; • Security; • Transport Services; and • Medical Services.

4.3.4 As an organization the University is expected to perform the following functions from a management cybernetics point of view:

(a) Operations --- both line and support operations --- for which the University primarily exist;

(b) Coordination and synergistic control (administrative support functions);

(c) Execution of present plans;

(d) Long term planning; and

(e) Strategic supervision - cum - Strategic and policy management.

4.3.5 It is proposed to structure the five functions listed in sub-section 4.3.4 hereinabove into a hierarchy of controls with system (1) being concerned with function (a), system (2) with function (b) and so on keeping in mind the ideas presented in sub-section 4.3.2 hereinabove. The main operative functions (the line operations --- indicated in column 1 of Table 4.2) are expected to be carried out by the instructional faculty with the Deans Schools of Study / Heads of Departments serving as the Line Operations Managers. Policy guidance with regards matters covered under line operations is expected to be provided by the School Boards / Academic Council through the set of Standing Committees of the Academic Council indicated in Fig. 4.1. On the other hand, the support functions, i.e., the staff operations, which comprise of functions such as finance, personnel management, administration, estate maintenance, etc., are expected to be carried out by a hierarchy of administrative officers with the Registrar and the Functional Deans serving as the Support Operations Managers.

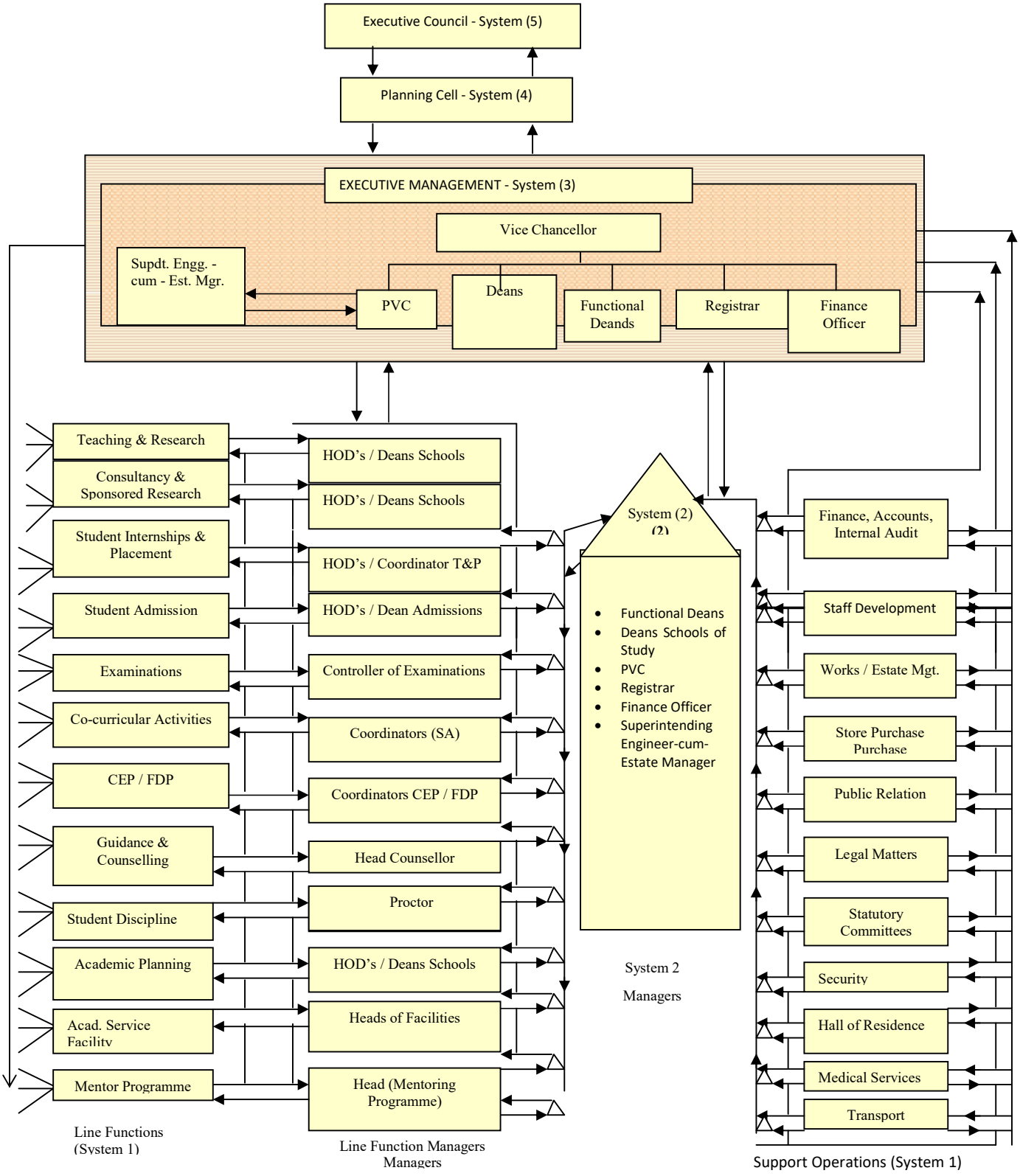
4.3.6 The function of coordination and synergistic control is expected to be carried out by the Pro Vice Chancellor, the functional Deans, the Deans Schools of Study, the Registrar, the Finance Officer and the Superintending Engineer-cum-Estate Manager who constitute the system (2) Managers. The system (2) Managers are responsible for coordinating decisions and to channelize information between the system (1) Managers and the Vice Chancellor. The system (2) Managers report to the Vice Chancellor who as the executive head of the University functions as the system (3) Manager and is responsible to the Executive Council for the execution of present plans and for implementation of policies as may be laid down by the Executive Council.

4.3.7 The corporate planning activity is proposed to be carried out as an independent system (4) function distinct from that of execution of present plans. It is proposed to constitute a Board for Planning (as a Standing Committee of the Academic Council as indicated in Fig. 4.1) with the Vice Chancellor as its Chairperson to provide policy guidance for sustained development and to propose and monitor long and short term plans of the University. It is envisaged that logistic and secretarial support to the Board of Planning shall be provided by a permanent Planning Cell functioning under the Pro-Vice Chancellor.

4.3.8 Responsibility for carrying out the system (5) function, i.e. the function of strategic supervision-cum-strategic and policy management is proposed to vest on the Executive Council.

4.3.9 The proposed systems framework for executive management of the University as outlined in sub-sections 4.3.5. - 4.3.8 is diagrammatically presented in Fig. 4.3.

Fig 4.3: Systems Framework for Executive Management: Central University of Andhra Pradesh



4.4. SYSTEM OF MANAGEMENT OF THE SCHOOLS OF STUDY

4.4.1 Each of the constituent Schools of Study shall be headed by a Dean who shall be the Controller of Examination of the concerned School of Study. The Deans of the Schools of Study shall be appointed by the Vice Chancellor for a term of 3 years in the manner prescribed in clause 5(1) of the Statutes.

4.4.2 The Deans Schools of Study shall be responsible for:

- The conduct and management of the standards of teaching and research in their respective Schools of Study;
- The execution of policy decisions on academic and student development & welfare issues as may be laid down by the Authorities of the University;
- Making recommendations on behalf of the concerned School and its associated Departments and inter-disciplinary Centres on academic issues for consideration of the Academic Council and its Standing Committees;
- Preparation of the annual budget and the formulation of the development plans for the concerned School in association with the Heads of Departments and inter-disciplinary Centres affiliated to the concerned School of Study.

4.4.3 Each School of Study shall have a School Board constituted in the manner prescribed in clause 43 of the Statutes. The individual School Boards shall be responsible for overall policy formulation, coordination and review of all activities of the concerned School of Study.

4.4.4 It is further proposed that the individual School Boards may constitute the following set of Standing Committees each responsible for handling a specific aspect of the functions of the School Board:

- The Board of Studies of individual Departments associated with the School of Study;
- The Admissions Committee;
- The Faculty Affairs Committee;
- The Planning Committee;

- The Industrial Liaison Committee;
- The Research Committee; and
- The Student-Faculty Academic Interaction Council.

4.5. SYSTEM OF MANAGEMENT OF TEACHING DEPARTMENTS & INTER – DISCIPLINARY CENTRES

4.5.1 Each teaching department and inter-disciplinary centre shall be headed by a Head of Department / Head of Centre who shall be the operations manager for the concerned department / centre and shall be appointed by the Vice Chancellor for a term of 3 years from amongst the Professors/Associate Professors of the concerned department / centre in the manner prescribed by the Executive Council.

4.5.2 The Heads of the Department / Centre shall be responsible for the entire working of their respective department / centre including the coordination of its teaching and research activities subject to the general control of the Dean of the concerned School of Study to which the department / centre is affiliated and the Vice Chancellor. He / she will also be responsible to see that the decisions of the Authorities of the University as may be applicable to the concerned department / centre are faithfully implemented.

4.5.3 It is proposed that each department / centre shall have an apex committee called the Department Faculty Board (DFB) / Centre Faculty Board (CFB) to be chaired by the concerned Head of Department / Centre and shall comprise of all full time tenured and contract faculty having primary affiliation with the concerned department / centre plus three faculty members from allied departments / centres at the discretion of the DFB / CFB. The DFB / CFB shall be responsible for overall policy formulation, coordination and review of all activities of the department / centre in conformity with the mission and policy framework for the University as may be laid down by the Authorities of the University.

4.5.4 Each DFB / CFB may constitute a Board of Studies and a Research Committee as Standing Committees of the DFB / CFB and other ad hoc committees as considered necessary to assist it in its functioning.

4.5.5 It is further recommended that an individual Standing Review Committee may be constituted by the Vice Chancellor for each department / centre to carry out a review of their respective functioning in order to suggest any remedial action necessary to improve their functioning and to give guidance on future directions initially on completion of five years of operation of the department / centres and bi-annually thereafter.

4.6. SYSTEM OF MANAGEMENT OF NON-ACADEMIC STUDENT AFFAIRS

4.6.1 Responsibility as the System 3 Executive Manager to serve as the points person for handling all issues pertaining to non-academic student affairs at the University is proposed to vest in a Dean of Student Welfare to be appointed by the Executive Council on the recommendation of the Vice Chancellor for a term of 3 years from amongst the Professors/Associate Professors of the University either on a full time basis or as an additional responsibility as prescribed in clause 44 of the Statutes. The Dean of Student Affairs shall be assisted in the discharge of his / her responsibility by the Faculty Advisors (Student Activities), the Hostel Wardens and the Proctor.

4.6.2 Clause 36 of the Statutes provides for the constitution of a Student Affairs Council charged with the responsibility for making suggestions to the appropriate authorities of the university in regards programmes of studies and other matters of importance in regard to the working of the university in general. Since the prime function of the SAC is to serve as a forum for academic interaction it is proposed that the Student Affairs Council be a Standing Committee of the Academic Council as indicated in Fig. 4.1.

4.6.3 In order to minimize the entry of organized political groups through a student's union it is proposed to channelize the organization of student non-academic activities through the constitution of a Board for Student Activities (BSA) under the

chairmanship of the Dean of Students Welfare and comprising both faculty and students of the University. The BSA shall be charged with the responsibility for overall policy formulation, coordination and review of all matters pertaining to non-academic student affairs such as student co-curricular activities, student housing, student counselling, student welfare, student discipline other than breach of academic integrity, etc. It is suggested that the composition and other details regarding the BSA may be spelt out in a BSA Constitution to be drawn up by the Dean Student Welfare in consultation with the students and approved by the Academic council.

4.6.4 With a view to inculcate qualities of leadership and a spirit of team work in the students of the University it is imperative that the students themselves be an integral part of the process of management of their own affairs with the faculty being involved only as mentors and advisors. Keeping the above stated premise in mind it is recommended that the following set of Standing Committees of the Board of Student Affairs comprising both students and faculty be constituted at the grass-root level to handle individual aspects of non-academic student affairs:

(i) Board for Cultural & Creative Activities (BCCA);
(ii) Board for Sports Activities (BSA);
(iii) Board for Hostel Management (BHM);
(iv) The Proctorial Board;
(v) Board for Student Welfare (BSW); and
(vi) Guidance & Counseling Cell (G&CC).

4.6.5 Essential details with respect to the composition, procedure for nomination / election of members, duties & responsibilities, procedure for conduct of business, etc. of each of the above named Standing Committees shall be as may be prescribed by the Board of Student Affairs.

4.7. COORDINATING MECHANISM

4.7.1 In view of the extensive decentralization and delegation of authority and responsibility implicit in the system of executive management proposed hereinabove it is desirable to have in place a mechanism for administrative and academic coordination. It is suggested that the following coordinating meetings may be periodically convened:

(i) Meetings of System (3) Executive Managers comprising the Vice Chancellor, the Pro-Vice Chancellor, the functional Deans, the Deans of the Schools of Study, the Registrar, the Finance Officer and the Superintending Engineer-cum-Estate Manager may be convened twice a month with the objective of sharing information on major issues handled by each functionary during the intervening period between meetings and to seek each other's advise as may be necessary;

(ii) Meetings of all administrative officers including officers of the Registry and the System (3) Executive Managers may be convened twice a year. The objective of these meetings may be to discuss common issues concerning the administration of the University, to take stock of the work being done and to nurture greater interaction & communication among the administrative officers as well as between the officers and the System (3) executive managers.

(iii) Meetings of an Executive Committee of the Academic Council comprising the Vice Chancellor, the Pro-Vice Chancellor, the functional Deans, the Deans of the Schools of Study, the Heads of Teaching Departments / Inter-disciplinary Centres and the Registrar to be convened at the discretion of the Vice Chancellor. The objective of the meetings would be to provide a forum to assist the Vice Chancellor in formulating mechanisms for executing academic policy decisions, to discuss matters within the purview of the Academic Council on which the Vice Chancellor desires advice and to make recommendations to the Academic Council on matters referred by the Academic Council to it by any of its other Standing and / or Special Committees.

4.7.2 It is recommended that meetings of all three of these coordinating bodies be chaired by the Vice Chancellor and may be convened by the Registrar at the discretion of the Vice Chancellor.

4.8. OFFICERS AND THEIR FUNCTIONS

4.8.1 The following officers have been proposed at the top executive management level:

(i) The Vice Chancellor;
(ii) The Pro-Vice Chancellor ;
(iii) The Functional Deans (Academic Affairs / R & D / Student Welfare / Faculty Affairs / Admissions);
(iv) Deans Schools of Study;
(v) Heads of Departments / Research Centres;
(vi) The Registrar;
(vii) The Proctor
(viii) The Controller of Examinations;
(ix) The Finance Officer;
(x) The Superintending Engineer-cum-Estate Manager; and
(xi) Heads of Academic Service Facilities / Experimental Gardens.

4.8.2 The role and responsibilities for each of these key positions are indicated hereunder in Table 4.3:

Table 4.3: Role & Responsibilities of Key Officers

VICE CHANCELLOR	
Designation	Vice Chancellor
Method of Appointment	Appointed by the Visitor as per procedure prescribed in the Central University Act 2009 and the Statutes
Salary Scale	Emoluments and terms & conditions of service as prescribed by the GOI.
Report to	Chancellor
Reported by	• Pro-Vice Chancellor • Functional Deans; • Deans Schools of Study • Heads of Departments / Centres of Research; • Controller of Examinations; • Proctor; • Registrar; • Heads of Central Academic Service Facilities / Gardens; • Finance Officer; • Superintending Engineer-cum-Estate Manager; • Employees of the University through their respective Supervisors.
Role & Responsibilities	• Controller of Examinations; • Chairperson of the Executive Council / the Academic Council / the Finance Committee / the Building & Works Committee; • To inspire and motivate all constituents of the university to willingly carry out their respective responsibilities with a view to accomplish both their personal and organizational goals; • To make the **Vision Mission Value (VMV)** Statement of the University 'liveable' by continuously articulating the VMV Statement as well as by setting an example through actually living out the ideas contained in the VMV Statement; • To develop human resource practices at the University with a view towards nurturing excellence; • To plan for the future and to mobilize resources for their fruition; • Public Relations and Networking with Stakeholders and the Community; • To create an enabling environment for academic-value addition; • Inter-personal relations and conflict management; • Building the brand equity of the University; • Financial management; • Nurturing a second-level of leadership; and

	• Conducting 'accountability audits' on an on-going basis for societal confidence-building.

PRO-VICE CHANCELLOR	
Designation	Pro-Vice Chancellor
Salary Scale	Emoluments and terms & conditions as prescribed in the Ordinances
Method of Appointment	Appointed by the Executive Council on the recommendation of the Vice Chancellor for tenure not exceeding 5 years or until expiry of the tenure of the Vice Chancellor whichever is earlier.
Report to	Vice Chancellor
Reported by	• AR (Planning); • AR (Resource Mobilization); • AR (International & Outreach Programmes) • PRO; • Manager Guest House;
Role & Responsibilities	• To assist the Vice Chancellor in academic and administrative work as may be assigned to him by the Vice Chancellor; • Prospective Planning; • International & Outreach Programmes; • Alumni Relations; • University Budget in consultation with the Finance Officer; • Accountability Audit; • Public Relations; • Management of Guest House; • Resource Generation; • Liaising with National & International Institutes of Higher Learning & Research.

DEAN ACADEMIC AFFAIRS	
Designation	Dean Academic Affairs
Salary Scale	Scale as being drawn as a Professor + honorarium & perquisites as may be decided by the Executive Council from time to time.
Method of Appointment	Appointed, for a term of 3 years, by the Executive Council on the recommendation of the Vice Chancellor from amongst the Professors of the University as per procedure laid down by the Executive Council on the recommendation of the Academic Council.
Report to	Vice Chancellor
Reported by	• AR (UG Studies); • AR (PG Studies); • Controller of Examinations.

Role & Responsibilities	• Chairperson of Academic Council's Academic Affairs Committee; • Course Registration; • Framing of Academic Time Table; • Trimester Schedule; • Academic Discipline (in consultation with the Dean Student Welfare / Proctor); • Monitoring of Teaching**;** • Student feedback on Courses; • Student - Faculty Academic Interaction; • New Academic Programmes; • Student Exchange Schemes; • Curriculum Development; • Organization of Effective Teaching Workshops; • Liaison with Deans Schools of Study / Heads of Departments; • Organization of the Annual Convocation.

DEAN ADMISISSIONS	
Designation	Dean Admissions
Salary Scale	Scale as being drawn as a faculty member + honorarium and perquisites as may be decided by the Executive Council from time to time.
Method of Appointment	Appointed, for a term of 3 years, by the Executive Council on the recommendation of the Vice Chancellor from amongst the Professors of the University as per procedure laid down by the Executive Council on the recommendation of the Academic Council.
Report to	Vice Chancellor
Reported by	• AR (Admissions); • Coordinator (Alumni Affairs)
Role & Responsibilities	• Chairperson Academic Council's Admissions Committee; • Student Admission; • Preparation/Printing/Sale of Prospectus; • Conduct of Entrance Examination in coordination with the Controller of Examination; • Liaison with Deans Schools of Study / Heads of Departments; • Admission Interviews / Counselling; • Issue of Admission Letters.

DEAN R & D	
Designation	Dean R & D
Salary Scale	Scale as being drawn as a faculty member + honorarium and perquisites as may be decided by the Executive Council from time to time.
Method of Appointment	Appointed, for a term of 3 years, by the Executive Council on the recommendation of the Vice Chancellor from amongst the Professors of the University as per procedure laid down by the Executive Council on the recommendation of the Academic Council.
Report to	Vice Chancellor
Reported by	• AR (R&D) • Coordinator CEP • Coordinator Student Training & Placement
Role & Responsibilities	• Chairperson Academic Council's R&D Committee; • Promotion of Research; • Faculty Research Initiation Programme; • Student Research Opportunities Programme; • Management of Sponsored R&D Projects; • Student Industry Internship; • Industry Interaction; • Consultancy; • Business Incubation; • Continuing Education Programmes; • Student Mentoring; • Student Placement including interview schedules; • Maintaining data base and an Information Library on Companies; • Providing logistic support to companies visiting for campus interviews; • Maintaining Placement Statistics; • Liaising with Deans Schools of Study / Heads of Departments • Advising on the framing of Placement / Training rules; • Seeking training slots and matching student – company interests in consultation with Deans Schools of Study / Heads of Departments ; • Ascertaining / Analysis feedback from students and companies.
DEAN STUDENT WELFARE	
Designation	Dean Student Welfare
Salary Scale	Scale as being drawn as a faculty member + honorarium and perquisites as may be decided by the Executive Council from time to time.
Method of Appointment	Appointed, for a term of 3 years, by the Executive Council on the recommendation of the Vice Chancellor from amongst the Professors of the University as per procedure

	laid down by the Executive Council on the recommendation of the Academic Council.
Report to	Vice Chancellor
Reported by	• AR (Student Affairs); • Proctor; • Wardens; • Sports Officer; • Faculty Advisors Student Co-curricular Activities; • Faculty Advisor Student Counselling Service.
Role & Responsibilities	• Chairperson Academic Council's Student Affairs Council; • Chairperson Board of Student Affairs; • Student Welfare; • Management of Student Hostels & Messing; • Supervision of Student Co-curricular Activities; • Supervision of Student Mentoring Service; • Supervision of Student Guidance & Counselling Service; • Student non-academic discipline in co-ordination with the Proctor; • Student Health Services; • Foreign Students; • Liaison with Wardens/Activity Advisors.

DEAN FACULTY AFFAIRS	
Designation	Dean Faculty Affairs
Salary Scale	Scale as being drawn as a faculty member + honorarium and perquisites as may be decided by the Board of Governors from time to time.
Method of Appointment	Appointed, for a term of 3 years, by the Executive Council on the recommendation of the Vice Chancellor from amongst the Professors of the University as per procedure laid down by the Executive Council on the recommendation of the Academic Council.
Report to	Vice Chancellor
Reported by	• AR (Faculty Affairs); • Coordinator Faculty Development Programme
Role & Responsibilities	• Chairperson Academic Council's Board of Faculty Affairs; • Formulation of manpower policies for faculty including faculty search, creation of posts, recruitment & appointment; • Faculty Development Programme; • Performance Appraisal; • Faculty Welfare; • Grant of medium / short leave to faculty; • Processing requests of faculty for long leave; • Nomination of faculty to attend seminars / conferences in India;

	• Processing requests of faculty for nomination to attend seminars / conferences abroad; • Liaison with Heads of Departments / Deans Schools of Study.

DEANS SCHOOLS OF STUDY	
Designation	Deans School of Study
Method of Appointment	Appointed by the Vice Chancellor for a term of 3 years from amongst the Professors in the Departments / Centres of Research affiliated to the concerned School of Study in the manner prescribed in clause 5(1) of the Statutes.
Salary Scale	Scale as being drawn as a Professor + honorarium and perquisites as may be decided by the Executive Council from time to time.
Report to	Vice Chancellor
Reported by	Faculty and Support Staff of all Departments / Centres of Research affiliated to the concerned School of Study.
Role & Responsibilities	• Chairperson of the School Board of the concerned School of Study; • The conduct and management of the standards of teaching and research in their respective Schools of Study; • The execution of policy decisions on academic and student development & welfare issues as may be laid down by the Authorities of the University; • Making recommendations on behalf of the concerned School and its associated Departments and inter-disciplinary Centres on academic issues for consideration of the Academic Council and its Standing Committees; • Preparation of the annual budget and the formulation of the development plans for the concerned School in association with the Heads of Departments and inter-disciplinary Centres affiliated to the concerned School of Study.

HEADS OF DEPARTMENTS / RESEARCH CENTRES	
Designation	Head of Departments / Research Centres
Method of Appointment	Appointed, for a term of 3 years, by the Vice Chancellor from amongst the Professors / Chief Scientific Officers of the Department / Research Centres as per procedure laid down by the Executive Council on the recommendation of the Academic Council.
Salary Scale	Scale as being drawn as a faculty member + honorarium and perquisites as may be decided by the Executive Council from time to time.
Report to	Vice Chancellor through the Dean School of Study
Reported by	Faculty and Support Staff of the respective Departments / Research Centres
Role & Responsibilities	• Responsible for all aspects of the working of the concerned Department / Research Centre subject to the general control of the Dean School of Study / Vice Chancellor; • Implementation of all applicable policy decisions with respect to academic, personnel and administrative matters as prescribed by the Authorities of the University; • Any other matter as may be specifically assigned by the Vice Chancellor.

REGISTRAR	
Designation	Registrar
Method of Appointment	Appointed on contract for a term of 5 years by the Executive Council on the recommendation of a Selection Committee in the manner prescribed in the clause 6(1) of the Central University Statutes.
Salary Scale	As prescribed by the Executive Council from time to time.
Report to	Vice Chancellor
Reported by	• AR's (in-charge of various administrative sections under the overall charge of the Registrar); • Coordinator Non-Academic Staff Training
Role & Responsibilities	• Secretary of the Executive Council / Academic Council; • Notice of Meetings, Circulation of Agenda, Minutes, Follow-up Action, etc. of the above mentioned statutory committees; • General Administration & Discipline; • Manpower Policies for Non-Academic Staff including Creation of Posts, Staff Recruitment and Appointments, etc. • Staff Training & Development; • Service matters and Service Records of Non-Academic

	Staff --- performance appraisal, mentoring etc.; • Preparation of an Administrative Manual; • Welfare, Health and Safety of Non-Academic Staff; • Implementation of general service and conduct rules. • Security; • Housekeeping; • Vigilance; • Legal Matters; • Central Records; • General Coordination; • Legislature Questions; • Transport Services; • Official language policy & its implementation; • Any other duties as may be assigned by the Vice Chancellor and / or the Executive Council and / or the Statutes and Rules &Regulations of the University.

PROCTOR	
Designation	Proctor
Method of Appointment	Appointed by the Vice Chancellor for term of 3 years, in rotation, from amongst the Professors / Associate Professors of the University in accordance with a procedure prescribed in the University Ordinance
Salary Scale	Scale as being drawn as a faculty member + honorarium and perquisites as may be decided by the Executive Council from time to time.
Report to	Vice Chancellor through the Dean Students Welfare
Reported by	AR (Student Affairs)
Role & Responsibilities	• Assist the Vice Chancellor / Dean Students Welfare with respect to the discipline of students; • Liaison with Heads of Departments / Dean Schools of Study / Dean Academic Affairs.
CONTROLLER OF EXAMINATIONS	
Designation	Controller of Examinations
Method of Appointment	Appointed by the Executive Council for term of 5 years on the recommendation of a Selection Committee in the manner prescribed in clause 8(1) of the Central University Statutes.
Salary Scale	As fixed by the Executive Council from time to time.
Report to	Vice Chancellor through the Dean Academic Affairs / Dean Admissions
Reported by	AR (Examinations)
Role & Responsibilities	• Arrange for and superintend the Examinations of the University including the Admission Examinations in the manner prescribed in the Statutes; • Liaison with the Dean Academic Affairs / Dean

	Admissions / Heads of Departments / Dean Schools of Study with regards to the conduct of the Examinations.

FINANCE OFFICER	
Designation	Finance Officer
Method of Appointment	Appointed on contract for a term of 5 years by the Executive Council on the recommendation of a Selection Committee in the manner prescribed in clause 7(1) of the Central University Statutes.
Salary Scale	As prescribed by the Executive Council from time to time.
Report to	Vice Chancellor
Reported by	• Deputy/Assistant Finance Officers; • Internal Audit Officer.
Role & Responsibilities	**(i) <u>General</u>:** • Secretary of the Finance Committee; • Preparation of the Annual Budget of the University in consultation with the Pro-Vice Chancellor; **(ii)<u>Finance</u>:** • Fund mobilization; • Revenue planning; • Grants-in-aid from the government/sponsors; • Co-ordination & liaison with the Finance Division of the Ministry of Human Resources Development, Government of India on all financial matters; • Investment monitoring and budgetary control of grants; • Scrutiny of all financial proposal raised by various units of the University. **(iii) <u>Accounts:</u>** • Payments for materials& services; • Payroll; • Maintenance of accounts; • Preparation of financial statements. **(iv)<u>Audit:</u>** • Audit of purchase & works tenders; • Coordination with the internal auditor and the statutory external auditor; • Compliance of audit and inspection reports.
SUPERINTENDING ENGINEER-CUM- ESTATE MANAGER	
Designation	Superintending Engineer-cum-Estate Manager
Method of Appointment	Appointed on contract for a term of 5 years by the Executive Council on the recommendation of a Selection Committee constituted in the manner prescribed in the Central University Statutes.
Salary Scale	As prescribed by the Executive Council from time to time on the recommendation of the MHRD, GOI.

Report to	Vice Chancellor
Reported by	All staff of the Works & Estate Maintenance Unit through their respective Supervisors.
Role & Responsibilities	• Overall planning, contracting, supervision and monitoring of works of construction, renovation and repairs; • Maintenance of Civil / Electrical / Air Conditioning / Central Heating / Horticulture Works; • Monitoring of Housekeeping Contract; • Standardization of norms for space utilization; • Space Audit; • Monitoring of works bills of contractors & suppliers; • House Allotment; • Commercial Establishments.
HEADS OF ACADEMIC SERVICE FACILITIES / EXPERIMENTAL GARDENS	
Designation	Head of Academic Service Facility (Library / Computer Centre / Horticulture Garden
Method of Appointment	The Librarian shall be the ex-officio Heads of the Library. In the case of all other Central Facilities and the Gardens the Head shall be appointed by the Vice Chancellor from amongst the teaching / research faculty and officers of the University.
Salary Scale	Scale as being drawn on their respective substantive posts.
Report to	Vice Chancellor
Reported by	All Staff of the concerned Facility / Experimental Garden
Role & Responsibilities	• Responsible for the management of all aspects of the operations of the concerned Facility / Garden including liaison with users subject to the policy guidance of the concerned Facility / Garden Management Committee

Chapter 5

ACADEMIC DIVISIONS AND PROGRAMMES

5.1. ACADEMIC DIVISIONS

5.1.1 It is recommended that all teaching and other academic activities at Central University, Andhra Pradesh be carried out under the aegis of constituent Schools of Study. It is further recommended that at the inception the University has the FIVE SCHOOLS OF STUDY listed hereunder:

A. School of Arts, Humanities and Social Sciences;
B. School of Interdisciplinary and Applied Sciences;
C. School of Languages;
D. School of Vocational Studies and Skill Development;
E. School of Commerce & Management;

5.2. TYPES OF PROGRAMMES

5.2.1 It is recommended that during the initial 7 years of operation the academic programmes listed hereunder in Table 5.1 may be offered at Central University, Andhra Pradesh under the aegis of its proposed Schools of Study under **11 different departments** at the Baccalaureate, Post Graduate Diploma, Master's and Doctoral levels.

Table 5.1: Academic Programmes under different School of Studies

S.No.	School of Study	Department	Course
1	School of Arts, Humanities and Social Sciences	Economics	B.A.(Hons.) Economics M.A. Economics
		Psychology	B.A. (Hons.) Applied Psychology M.A. Applied Psychology P.G. Diploma in Sports Psychology P.G. Diploma in Counselling and Guidance
		Political Science	B.A. (Hons.) Political Science M.A. Political Science
		Geography	B.A. (Hons.) Geography M.A. Geography
2	School of Interdisciplinary and Applied Sciences	Applied Medical Sciences	M.Sc. (Applied Medical Science) MSc (Imaging Technology)
		Biomedical Sciences	M.Sc. (Nuclear Medicine) M.Sc. (Radiation Therapy)
3	School of Languages	Foreign Languages	B.A.(Hons.) Spanish M.A. Spanish B.A.(Hons.) English M.A. English
		Indian Languages	B.A. with Telgu M.A. Telgu B.A.with Hindi M.A.Hindi
4	School of Vocational Studies and Skill Development*	Vocational Studies	B.A. (Vocational studies)- Tourism and Travel Management B.A. (Vocational studies)- Renewable Energy Management B.A. (Vocational studies)-Retail Management and IT
5	School of Commerce & Management	Commerce	B.Com. M.Com
		Management	B.B.A. M.B.A.
Ph.D. Degree Programs in the areas of specialization in which Master's degree programs are being offered or allied areas of interest of the faculty members.			
Continuing Education Programs in core areas of specialization as per market demand of 1-2 weeks is also proposed for Central University, Andhra Pradesh.			
***Under School of Vocational Studies and Skill development.** Students can exit after one year with a Diploma course; after two years with an Advance Diploma; and after three years with a B.Voc. degree.			

Note: The Academic programmes are only suggestive for the preparation of DPR and it may change as per the Academic Council of Central University, Andhra Pradesh.

5.3. PROJECTED STUDENT STRENGTH OF THE UNIVERSITY

5.3.1 Consolidated statements for the academic programmes at the baccalaureate / postgraduate diploma / master's / doctoral levels that are proposed to be offered at Central University, Andhra Pradesh, under the aegis of its constituent Schools of Study, along with their respective departments have been indicated in Table 5.1. **Total Student strength of Central University, Andhra Pradesh is 4508** under different Schools of Study as given in Table 5.2.

Table 5.2: Year-Wise Student Strength for under the Aegis of Individual Schools of Study

	Transit Campus			Main Campus			
Academic Programme	**FY 1 (2017-18)**	**FY 2 (2018-19)**	**FY 3 (2019-20)**	**FY 4 (2020-21)**	**FY 5 (2021-22)**	**FY 6 (2022-23)**	**FY 7 (2023-24)**
A. School of Arts, Humanities and Social Sciences	40	80	200	478	806	1104	1514
B. School of Interdisciplinary and Applied Sciences	0	0	0	40	128	256	344
C. School of Languages	80	160	400	820	1240	1380	1440
D. School of Vocational Studies and Skill Development	50	100	150	200	300	400	450
E. School of Commerce & Management	0	0	0	160	400	620	760
TOTAL STUDENTS	**170**	**340**	**750**	**1698**	**2874**	**3760**	**4508**

Based on the recommended annual student intake the total student strength for each course under different department is given in Table 5.3. The Table 5.3 also provides year-wise student strength for all categories of programmes for each School of Study for the initial 7 years of operation of the University. In this report, Financial Year 1 is taken as 2017-2018. For three years i.e. from 2017-18, 2018-19 and 2019-20, the academic courses will be run in the transit campus. As limited infrastructure, will be available, courses which require labs are proposed from Financial Year 4 i.e. 2020-21, so that before starting the courses requisite infrastructure is constructed and necessary facilities are available.

Table 5.3: Year Wise Student Strength as per Academic Programme under various departments

S.No.	Department	Duration	Intake	Year Wise Student Strength of Central University - Andhra Pradesh						
				FY 1 (2017-18)	FY 2 (2018-19)	FY 3 (2019-20)	FY 4 (2020-21)	FY 5 (2021-22)	FY 6 (2022-23)	FY 7 (2023-24)
	A. SCHOOL OF ARTS, HUMANITIES AND SOCIAL SCIENCES									
1	**Economics**									
	B.A.(Hons.)	3	80	40	80	120	160	200	240	240
	M.A.	2	80	0	0	0	80	160	160	160
	Total (Economics)			40	80	120	240	360	400	400
2	**Psychology**									
	B.A. (Hons.)(Applied Psychology)	3	60	0	0	0	60	120	180	180
	M.A. Applied Psychology	2	50	0	0	0	0	0	50	100
	P.G. Diploma in Sports Psychology	1	50	0	0	0	0	50	50	50
	P.G. Diploma in Counselling and Guidance	1	50	0	0	0	0	0	50	50
	Total (Psychology)			0	0	0	60	170	330	380
3	**Political Science**									
	B.A. (Hons.) (Political Science)	3	80	0	0	80	160	240	240	240
	M.A. (Political Science)	2	80	0	0	0	0	0	80	160
	Total (Political Science)			0	0	80	160	240	320	400
4	**Geography**									
	B.A. (Hons.) (Geography)	3	60	0	0	0	0	60	120	180
	M.A. (Geography)	2	50	0	0	0	0	0	50	100
	Total (Geography)			0	0	0	0	60	170	280

S.No.	Department	Duration	Intake	Year Wise Student Strength of Central University - Andhra Pradesh						
				FY 1 (2017-18)	FY 2 (2018-19)	FY 3 (2019-20)	FY 4 (2020-21)	FY 5 (2021-22)	FY 6 (2022-23)	FY 7 (2023-24)
	Ph.D. for School of Arts , Humanities and Social Sciences	3	18	0	0	0	18	36	54	54
	Total (1+2+3+4)			40	80	200	478	806	1104	1514
	B. SCHOOL OF INTERDISCIPLINARY AND APPLIED SCIENCE									
5	Applied Medical Sciences									
	M.Sc. (Applied Medical Science)	2	40	0	0	0	0	0	40	80
	M.Sc. (Imaging Technology)	2	40	0	0	0	0	40	80	80
	Total (Applied Medical Sciences)			0	0	0	0	40	120	160
6	Biomedical Sciences									
	M.Sc. (Nuclear medicine)	2	40	0	0	0	40	80	80	80
	M.Sc. (Radiation Therapy)	2	40	0	0	0	0	0	40	80
	Total (Biomedical Sciences)			0	0	0	40	80	120	160
	Ph.D. for School of Interdisciplinary and Applied Sciences	3	8	0	0	0	0	8	16	24
	Total (5+6)			0	0	0	40	128	256	344
	C. School of language									
7	Foreign Languages									
	B.A. (Hons.) Spanish	3	80	40	80	120	160	200	240	240
	M.A. Spanish	2	60	0	0	0	60	120	120	120

S.No.	Department	Duration	Intake		Year Wise Student Strength of Central University - Andhra Pradesh						
					FY 1 (2017-18)	FY 2 (2018-19)	FY 3 (2019-20)	FY 4 (2020-21)	FY 5 (2021-22)	FY 6 (2022-23)	FY 7 (2023-24)
	B.A. (Hons.) English	3	80		0	0	80	160	240	240	240
	M.A. English	2	60		0	0	0	0	0	60	120
	Total (Foreign Languages)				40	80	200	380	560	660	720
8	Indian Languages										
	B.A. with Telgu	3	80		40	80	120	160	200	240	240
	M.A. Telgu	2	60		0	0	0	60	120	120	120
	B.A.with Hindi	3	80		0	0	80	160	240	240	240
	M.A.Hindi	2	60		0	0	0	60	120	120	120
	Total (Indian Languages)				40	80	200	440	680	720	720
	Total (7+8)				80	160	400	820	1240	1380	1440
	D. VOCATIONAL STUDIES AND SKILL DEVELOPMENT										
9	B.A. (Vocational studies)-Tourism and Travel Management)	3	50		50	100	150	150	150	150	150
	B.A. (Vocational studies)-Renewable Energy Management	3	50		0	0	0	50	100	150	150
	B.A. (Vocational studies)-Retail Management and IT	3	50		0	0	0	0	50	100	150
	Total (9)				50	100	150	200	300	400	450

S.No.	Department	Duration	Intake	Year Wise Student Strength of Central University - Andhra Pradesh						
					FY 1 (2017-18)	FY 2 (2018-19)	FY 3 (2019-20)	FY 4 (2020-21)	FY 5 (2021-22)	FY 6 (2022-23)	FY 7 (2023-24)
	E. SCHOOL OF COMMERCE AND MANAGEMENT										
10	Commerce										
	B.Com.	3	80		0	0	0	80	160	240	240
	M.Com.	2	60		0	0	0	0	0	60	120
	Total (Commerce)				0	0	0	80	160	300	360
11	Management										
	B.B.A.	3	80		0	0	0	0	80	160	240
	M.B.A.	2	80		0	0	0	80	160	160	160
	Total (Management)				0	0	0	80	240	320	400
	Total (10+11)				0	0	0	160	400	620	760
	TOTAL STUDENT STRENGTH				170	340	750	1698	2874	3760	4508

Note: The intake in some courses is taken as half in initial 3 years of Academic Session as the University will be new and resources will be limited. Ph.D can be initiated in other departments also based on availability of faculty.

5.4. COURSE STRUCTUTRE

All the academic programme would be Semester based, two semesters in one academic year. Courses offered by the above mentioned schools would be based on the **Choice Based Credit System** (CBCS) of the UGC, enabling students to have opportunities to access all curricular areas of fair degree of mobility. Examination and assessment would be continuous evaluation based, and in terms of Letter **Grade** and **Cumulative Grade Point** average.

Courses in a programme would be credit based and of three kinds: Core, Elective and Foundation.

(i) **Core course** (discipline based)

(ii) Elective course

a. Generic Elective (to add generic proficiency to students)
b. Discipline centric elective
c. Open elective

(iii) Foundation course

a. Compulsory Foundation (Ability Enhancement Course)
b. Elective Foundation (Skill Enhancement Course)

5.5. BASIS OF ADMISSION

5.5.1. The basis of admission for various academic programmes proposed to be offered at Central University has been indicated below:

Level of Degree/Diploma	Admission Criteria
Diploma	To be eligible for admission to a Diploma programme of study, a candidate must have passed +2 level of a recognized Board of School Education or an equivalent grade
Baccalaureate Degree Programmes	On-Line, On-Demand, University-Administered Admission Test or alternately a National Entrance Test for those Programmes for which the same is a requirement mandated by the concerned Regulatory Agency: 50% weightage; Aggregate of the XII Class Board Examination Marks (with appropriate combination of subjects): 50% weightage.
Postgraduate Diploma Programmes	Graduates in any discipline (except language) with 55%marks in aggregate.
Masters Dégrée Programmes	On-Line, On-Demand, University-Administered Admission Test or alternately a National Entrance Test for those Programmes for which the same is mandated by the concerned Regulatory: 50% weightage; and Aggregate of the Baccalaureate Degree Marks: 50% weightage.
Doctoral Degree Programmes	University-Administered Written Test plus an Interview: 70% weightage; and Quality of Academic Background & Professional Experience: 30% weightage. or Direct entry for UGC-JRF qualified students
Continuing Education Programmes	Assessment of application including previous academic and professional background by the concerned Programme Coordinator and Faculty.

Chapter 6

HUMAN RESOURCES

6.1. INTRODUCTION

6.1.1. Success at every educational level is considered to be important, and its significance increase at the higher education level. Higher education prepares students for work by developing skills/abilities in them. The role of teachers at this level of education is of utmost significance for students as well as the University. Like any other Central University, there will be faculties at three levels i.e. Professor, Associate Professor, and Assistant Professor for the Central University at Andhra Pradesh.

6.1.2. In addition, there will be non-teaching staff for all the faculties and the University at large. It is proposed that the ratio of teaching to non-teaching staff would be 1:1.1.

The details about the teaching and non-teaching resource persons are given in this chapter.

6.2. CLASSIFICATION OF STAFF

6.2.1. It is proposed that all tenured posts at Central University Andhra Pradesh be classified as indicated hereunder in Table 6.1:

Table 6.1: Classification of Tenured Staff

Cadre	Posts
A. Teaching cadre	(i) Professor (ii) Associate Professor (iii) Assistant Professor
B. Academic Non-Teaching Cadres	(i) Librarian (ii) Deputy Librarian (iii) Assistant Librarian
C. Non – teaching Cadres	(i) Administrative & Other Support Cadres (ii) Technical Cadres (iii) General Support Cadres

6.2.2. It is further proposed to classify the non-faculty cadres into categories depending on the level of staff indicated hereunder:

Table 6.2: Classification of Non-teaching cadre staff

Category	Level of Staff
I	Statutory Officers (Group 'A' Level Posts)
II (A / B)	Administration & Technical Officers (Group 'A' Level Posts)
III (A / B)	Technical Support Staff (Group 'B' & 'C' Level Posts)
IV (A / B)	Administrative & Other Support Staff (Group 'B' & 'C' Level Posts)

6.3. FACULTY POSTS

6.3.1. The faculty posts are dependent upon the number of Departments proposed in Chapter 5 of this report. Department -wise faculty strength is given below in Table 6.3. It is assumed that each Department will have 7 faculties initially for 7 years divided as 1 Professor, 2 Associate Professor, 4 Assistant Professors. The University may take approval for additional faculty based on the requirement.

Table 6.3: Department-wise Faculty requirement

S.No.	School of Study	Department	Faculty
1	School of Arts, Humanities and Social Sciences	Economics	1 Professor 2 Associate Professor 4 Assistant Professor
		Psychology	1 Professor 2 Associate Professor 4 Assistant Professor
		Political Science	1 Professor 2 Associate Professor 4 Assistant Professor
		Geography	1 Professor 2 Associate Professor 4 Assistant Professor
2	School of Interdisciplinary and Applied Sciences	Applied Medical Sciences	1 Professor 2 Associate Professor 4 Assistant Professor
		Applied Biomedical Sciences	1 Professor 2 Associate Professor 4 Assistant Professor
3	School of Languages	Foreign Languages	1 Professor 2 Associate Professor 4 Assistant Professor
		Indian Languages	1 Professor 2 Associate Professor 4 Assistant Professor
4	School of Vocational Studies and Skill Development	Vocational Studies	1 Professor 2 Associate Professor 4 Assistant Professor (In addition, adjunct faculty is also to be provided for classes)
5	School of Commerce and Management	Commerce	1 Professor 2 Associate Professor 4 Assistant Professor
		Management	1 Professor 2 Associate Professor 4 Assistant Professor

TOTAL FACULTY REQUIREMENT FOR CENTRAL UNIVERSITY FOR 4508 STUDENTS IS 77.

6.3.2. It is proposed that Central University, Andhra Pradesh may adopt a flexible teaching cadre structure. However, for purpose of estimating the annual teaching faculty cost

the cadre distribution between the three permanent teaching faculty positions of Professor, Associate Professor and Assistant Professor be notionally based on the UGC norm of 1:2:4 as per UGC norms.

6.3.3. As per UGC guidelines, the workload of the teacher should not be less than 40 hours a week for 30 working weeks in an academic year.

6.3.4. The distribution of faculty according to Academic session is given in Table 6.4.

Table 6.4: Year-wise requirement of Teaching staff

	Transit Campus			**Main Campus**			
Academic Programme	**F.Y. 2017-18**	**F.Y. 2018-19**	**F.Y. 2019-20**	**F.Y. 2020-21**	**F.Y. 2021-22**	**F.Y. 2022-23**	**F.Y. 2023-24**
Professors	1	1	2	4	6	9	11
Associate Professors	2	3	5	8	13	18	22
Assistant Professors	3	5	9	17	25	36	44
Total (Faculty)	**6**	**9**	**16**	**29**	**44**	**63**	**77**

TOTAL FACULTY REQUIREMENT FOR CENTRAL UNIVERSITY FOR 4508 STUDENTS IS 77.

6.4. NON-TEACHING STAFF

6.4.1. Other than the Vice-chancellor and Faculty, the university will also have **86 Non-teaching staff** as given below in table 6.5. It has been calculated as per UGC norms of Teaching: Non-teaching staff of 1:1.1.

Table 6.5: Year-wise requirement of Non-teaching staff

POSTS	Transit Campus			Main Campus			
	F.Y. 2017-18	F.Y. 2018-19	F.Y. 2019-20	F.Y. 2020-21	F.Y. 2021-22	F.Y. 2022-23	F.Y. 2023-24
Category-I							
Statutory Officers							
Librarian	1	1	1	1	1	1	1
Deputy Librarian	1	1	1	1	1	1	1
Assistant Librarian	1	1	1	2	2	3	3
Registrar	1	1	1	1	1	1	1
Controller of Examinations	1	1	1	1	1	1	1
Finance Officer	1	1	1	1	1	1	1
Category-II							
II-A	1	1	1	3	4	7	9
II-B	1	1	2	3	5	7	9
II-C	1	1	2	4	6	9	11
Category-III							
III-A	1	1	2	4	7	9	11
III-B	1	1	2	4	7	9	12
Category-IV							
IV-A	0	0	2	4	7	10	13
IV-B	0	0	2	4	7	11	13
TOTAL OF NON - TEACHING STAFF	**11**	**11**	**19**	**33**	**50**	**70**	**86**

6.4.2. It is recommended that the actual numbers of support staff to be recruited in individual Categories (I-IV) and their specific designations in a particular year within the overall number recommended for the given category as well as their respective unit of posting may be decided by the University's Executive Management.

6.4.3. The recommended designations of posts under each of the Categories I-IV are given in Table 6.6. Their respective salary scales may be as prevails in the University system.

Table 6.6: List of Non-teaching staff with pay band and grade pay

Sr. No.	Name of Post	Scale of Pay	
		Pay Band	Grade Pay
1.	Controller of Examinations	37400-67000	10000
2.	Finance Officer	37400-67000	10000
3.	Registrar	37400-67000	10000
4.	Librarian	37400-67000	10000
5.	Deputy Librarian	37400-67000	8000
6.	Assistant Librarian	15600-39100	6000
7.	Executive Engineer	15600-39100	6000
8.	Deputy Registrar	15600-39100	7600
9.	Internal Audit Officer (on deputation)	15600-39100	7600
10.	Assistant Registrar	15600-39100	5400
11.	Medical Officer	15600-39100	5400
12.	System Analyst	15600-39100	5400
13.	Private Secretary	9300-34800	4600
14.	Section Officer	9300-34800	4600
15.	Nurse	9300-34800	4600
16.	Assistant Engineer	9300-34800	4600
17.	Security Officer	9300-34800	4600
18.	Personal Assistant	9300-34800	4200
19.	Junior Engineer (Civil)	9300-34800	4200
20.	Junior Engineer (Elect)	9300-34800	4200
21.	Caretaker (Guest House)	9300-34800	4200
22.	Senior Technical Assistant	9300-34800	4200
23.	Semi Professional Assistant	5200-20200	2800
24.	Technical Assistant	5200-20200	2800
25.	Scientific Assistant	5200-20200	2800
26.	Security Inspector	5200-20200	2800
27.	UDC	5200-20200	2400
28.	Library Assistant	5200-20200	2000
29.	Laboratory Assistant	5200-20200	2000
30.	Lower Division Clerk	5200-20200	1900
31.	Caretaker (Hostel)	5200-20200	1900
32.	Cook	5200-20200	1900
33.	Driver	5200-20200	1900
34.	Peon / Office Attendant	5200-20200	1800
35.	Library Attendant	5200-20200	1800
36.	Laboratory Attendant	5200-20200	1800
37.	Medical Attendant / Dresser	5200-20200	1800
38.	Kitchen Attendant	5200-20200	1800
39.	Hostel Attendant	5200-20200	1800

6.5. SUPPORT MANPOWER THROUGH OUTSOURCING

It is proposed that routine services that are amendable to outsourcing such as housekeeping / cleaning, hostel messing, horticulture, canteen, guest house services, transport, building maintenance, watch & ward, road cleaning, etc. be catered to through outsourcing with the tenured staff of the University only being involved as supervisors for such services. Manpower for such services has not been included in Table 6.7. and needs to be provided beyond the numbers indicated. In this DPR, 100 outsourcing staff has been proposed divided between security and house-keeping staff.

Table 6.7:Year-wise requirement of outsourcing staff

	Transit Campus			Main Campus			
Staff	**F.Y. 2017-18**	**F.Y. 2018-19**	**F.Y. 2019-20**	**F.Y. 2020-21**	**F.Y. 2021-22**	**F.Y. 2022-23**	**F.Y. 2023-24**
Total Security Staff	2	4	8	19	32	41	50
Total House Keeping Staff and other	2	4	8	19	32	41	50
Total	**4**	**8**	**16**	**38**	**64**	**82**	**100**

Chapter 7

PHYSICAL INFRASTRUCTURE RESOURCES

7.1. PHYSICAL INFRASTRUCTURE REQUIREMENT

7.1.1 The physical resource requirements consist of:

- Land (including land development, landscaping, boundary fencing and road network);
- Built up Space comprising:
  - (i) Academic and Administrative Complex;
  - (ii) Students Hostels and Amenities;
  - (iii) Academic & Support Staff Residences and Amenities;
  - (iv) General Amenities --- Common to Students, Academic & Support Staff; and
- Utilities including electric supply, stand by diesel/solar generation, water supply and rain water harvesting & recycling system, sewerage disposal & treatment, disposal system for solid / biological / chemical / radio-active waste, and drainage;
- Library & Information Resources;
- Equipment including instructional equipment, research equipment, etc.; and
- Furniture.

7.1.2. The total built-up area for central University, Andhra Pradesh is**95,232sq.m.** The break-up of area is given below in Table 7.1.

Table 7.1: Built-up area for different buildings of Central University, Andhra Pradesh

S.No.	Name of Building	Total Covered Area in sq.m
	Academic Complex	
1	School of Arts, Humanities and Social Sciences	7,262
2	School of Interdisciplinary and Applied Sciences	2,562
3	School of Languages	6,014
4	School of Vocational Education and skill development	2,235
5	School of Commerce and Management	3,719
6	Central Administrative Building	6,000
7	Central Library	4,000
8	Computer Centre	1,200
9	Auditorium cum Conference Centre	3,700
	Residential Complex	
17	Guest house	1,840
18	Health Centre and Other Amenities	1,500
19	Student Hostels and Apartments (including warden & staff residences)	40,000
20	Faculty Housing	11,200
21	Community Centre/commercial facilities for staff	1,500
22	Student Activity Centre /Cafeteria/Shopping/Canteen	2,500
	Grand Total	**95,232**

7.2. LAND & LAND DEVELOPMENT

For Central University, Andhra Pradesh **502.95 acres of land** has been identified. The land development cost is **Rs. 162 crores**for 70% of total land which includes Levelling, Internal roads and paths, Sewer, Storm Water Drains, Horticulture operations, Street Lighting with HPSV lamps, Boundary Wall etc. Electricity Connection and Water Supply connection shall be provided by the State Government upto the campus. So no provision has been provided for the same. Detail of the cost is given at Annexure I.

7.3. BUILT-UP SPACE FOR COMPLEXES

7.3.1. The Academic Complex

Buildings in the Academic Complex

It is proposed that the Academic Complex comprise of a cluster of the following buildings:

- The School Buildings including Classrooms, Laboratories, faculty rooms, common areas etc;
- The Central Academic Service Facilities including Library, Computer Centre, and
- The Auditorium-cum-Conference Centre.

(i). The School Buildings

The total Built-up area to the tune of 21792 sq. m. is to be provided for School Building to house the individual Schools of Study as detailed in Table 7.2. The school buildings will include classrooms and also lab areas as per the requirement of each school of study.

Table 7.2 : Area Requirement for Different Schools

S.No.	Name of School/ Department	Students (including Ph.D)	Faculty	Lab Area	Faculty Area (includes dean office, admin, seminar room, faculty office)	Classroom Area (@2.0 sq meter per student/seat)	Toilet	Controller of Examination	Training/ Placement Cell	Common Room and Other facilities like services, pantry, lift etc	Total Plinth Area	Total Covered Area
1	**2**	**3**	**4**	**5**	**6 [col.4x50 sq.m]**	**7 [col. 3 x 20sq.m]**	**8**	**9**	**10**	**11 [col. 7 X 25%]**	**12 [col. 5+6+7+8+9 +10+11]**	**13 [col.12 X 1.25]**
1	School of Arts , Humanities & Social Sciences	1514	28	66	1400	3028	297.8	30	231	757	5809.8	7262.25
2	School of Interdisciplinary and Applied Sciences	344	14	264	700	688	63.8	30	132	172	2049.8	2562.25
3	School of Language	1440	14	66	700	2880	283	30	132	720	4811	6013.75
4	School of Vocational studies & Skill Development	450	7	33	350	900	85	30	165	225	1788	2235.00
5	School of Commerce and Management	760	14	66	700	1520	147	30	132	380	2975	3718.75
	Total	4508	77	495	3850	9016	876.6	150	792	2254	17433.6	21792.00

(ii) The Central Academic Service Facilities

It is recommended that at its inception the University has the following independent Academic Service Facilities/Units

a. Central Library;

b. Computer Centre;

c. Auditorium cum Conference Centre.

The requirement of built-up space for the Academic Service Facilities as detailed in earlier sub-sections of the report are summarized hereunder in Table 7.3:

Table 7.3:Space Requirements for the Central Academic Service Facilities

Facility	Built-up Space (Sq. m.)
Central Library	4,000
Computer Centre	1,200
Auditorium cum Conference Centre	3700
TOTAL	**8900**

a) Central Library

Central Library is an essential component of all academic institutes. The objectives of the Central Library are mentioned below:

- To serve as a **'learning resource centre'** which provides its users access to a variety of print and non-print knowledge resources;
- To actively contribute to knowledge creation by assisting the Institute faculty and students in information search as a part of their research and project work;
- To serve as a mechanism to ensure that all users of the library's services are information literate, i.e., they hone the skills of retrieval, evaluation and making practical use of the acquired knowledge and

information base with a view to develop their ability to become independent life-long learners.

- To develop, promote and provide access to scholarly collections and resources across multiple sites, meeting students and faculty needs, and
- To provide information, lending and online reading list services for library users.

TABLE - 7.4:- SPACE REQUIREMENT FOR CENTRAL LIBRARY

Building Name	Room Name	Unit Area (Sqm.)	No. of Rooms	Carpet area (Sqm.)	Gross Area (Sqm.) (Carpet area X 1.33)
Library					
	Utility	30.00	1	30.00	39.90
	A.H.U.	20.00	3	60.00	79.80
	Binding Room	50.00	1	50.00	66.50
	Training / Search Room	50.00	1	50.00	66.50
	Reprographic Room	50.00	1	50.00	66.50
	Staff Room	50.00	1	50.00	66.50
	UPS Room	50.00	1	50.00	66.50
	Server Room	60.00	1	60.00	79.80
	L.T. Panel	30.00	1	30.00	39.90
	Archives	100.00	1	100.00	133.00
	CD Room	40.00	1	40.00	53.20
	Processing Room	50.00	1	50.00	66.50
	Reading Room	800.00	1	800.00	1064.00
	Electric Room	20.00	3	60.00	79.80
	Toilet (Male)	25.00	3	75.00	99.75
	Toilet (Female)	21.00	3	63.00	83.79
	Toilet (Handicap)	4.00	3	12.00	15.96
	Lift	6.00	4	24.00	31.92
	Entrance	100.00	1	100.00	133.00
	Book Collection	800.00	1	800.00	1064.00
	Assistant Librarian	15.00	3	45.00	59.85
	Bulk Books Arrival	85.00	1	85.00	113.05
	Issue	50.00	1	50.00	66.50
	Return	50.00	1	50.00	66.50
	Press Clipping	50.00	1	50.00	66.50
	Chief Librarian	30.00	1	30.00	39.90
	Deputy Librarian	20.00	1	20.00	26.60
	Group Discussion Room	20.00	2	40.00	53.20
	Meeting Room	20.00	2	40.00	53.20
	Electric Room	20.00	2	40.00	53.20
	Total			**3004.00**	**3995.32**
					Say 4000

b) Computer Center

The objectives of the Computer Centre are as stated hereunder:

- To provide computing facilities to meet the academic and support information service requirements of the Institute;
- To assist in the planning and implementation of the computerization of the administration of the Institute and its constituent units including codification of data for students and employees, accounts, stores, student admission and academic records, library services, etc.;
- To offer manpower training programs for administrative and support staff for effective implementation of the Institute's Management Information System;
- To develop system support software for the user community; and
- To manage the campus voice, data & picture communication network and the campus WAN & LAN for inter-connection and linkage with national and international communication networks.

Table – 7.5:- Space Requirement for Computer Centre

S.N.	Category of Buildings	Room Name	Unit Size (Sqm.)	No. of Rooms	Carpet Area (sqm.)	Gross Area (Sqm.) (Carpet area X 1.33)
1	3	4	5	6	7	8
A	**Computer Centre**					
1		Mini Computer Clusters	200.00	1.00	200.00	266.00
2		High Performance Computing Cluster	150.00	1.00	150.00	199.50
3		Voice-Data-Picture Communication including CATV link	30.00	1.00	30.00	39.90
4		Reception Lounge	75.00	1.00	75.00	99.75
5		Air Conditioning Plant	50.00	1.00	50.00	66.50
6		Uninterrupted Power Supply	50.00	1.00	50.00	66.50
7		Store	50.00	1.00	50.00	66.50
8		Seminar -cum-Committee Room	75.00	1.00	75.00	99.75
9		Cubicles for Operating Staff / Programmmers	75.00	1.00	75.00	99.75
10		Administrative office of the Computer Centre	75.00	1.00	75.00	99.75
11		Offices of Chief Systems Manager / Systems Manager /Technology Officer / Programmers	75.00	1.00	75.00	99.75
12		Micro - earth Station	Open Air		-	-
		TOTAL				1203.65 Say 1200

(iii) Auditorium Cum Conference Centre

It is proposed that the Institute has a multi-purpose centrally air conditioned **Auditorium cum Conference Centre of 3700 sqm** to be used for the following activities:

- Hosting of national and international conferences;
- Serving as a cultural centre for the staging of plays, music and dance recitals, and other cultural activities, etc.;
- Serving as a venue for presentation of guest lectures by invited eminent personalities;
- Serving as the venue for holding the Annual Convocation of the Institute.

Table – 7.6:- Space Requirement for Auditorium Cum Conference Centre

S.No.	Items	No. of Units	Area per unit	Area (sq.mt.)
1	Audi 1 (for 1000 students)	1	2500	2500
2	Conference room 1 (for 100 students)	2	250	500
3	Conference room 2 (for 200 students)	1	500	500
4	Toilets		100	100
5	Office		50	50
6	Cafeteria		50	50
	Total Area			**3700**

7.3.2 The Administrative Complex

The space requirement for the Administrative Complex is 6000 sqm. The Administrative complex will include the following:

Table – 7.7:- Space Requirement for Administrative Complex

S.N.	Room Name	Unit Size (Sqm.)	No. of Rooms	Carpet Area (sqm.)	Gross Area (Sqm.) (Carpet area X 1.33)
1	4	5	6	7	8
1	V.C Secretariat	200.00	1.00	200.00	266.00
2	Offices of the Deans	35.00	10.00	350.00	465.50
3	Office of the Registrar	30.00	1.00	30.00	39.90
4	Office of the Finance Officer	25.00	1.00	25.00	33.25
5	Admissions Section	150.00	1.00	150.00	199.50
6	Academic Section	150.00	1.00	150.00	199.50
7	Student Affairs Section	100.00	1.00	100.00	133.00
8	Planning & Resource Planning & Generation	100.00	1.00	100.00	133.00
9	Public Relation & Institute Publication	100.00	1.00	100.00	133.00
11	R & D including Student Training & Placement Cell	200.00	1.00	200.00	266.00
12	International Relation & Outreach Programs including Alumni Affairs	100.00	1.00	100.00	133.00
13	Faculty Affairs including FDP Cell	200.00	1.00	200.00	266.00
14	Personnel & Administration Office including Staff Training Cell /Vigilance Cell / Legal Cell / Caretaking & Housekeeping Cell / Transport Service Cell / Hindi Cell / Coordination Cell	800.00	1.00	800.00	1064.00
15	MIS	150.00	1.00	150.00	199.50
16	Store & Purchase Unit	150.00	1.00	150.00	199.50
17	Finance & Accounts and Internal Audit Unit	350.00	1.00	350.00	465.50
18	Secretariat of Statutory Bodies	100.00	1.00	100.00	133.00
19	Campus Security Unit	100.00	1.00	100.00	133.00
21	Communication Service Unit	200.00	1.00	200.00	266.00
22	Engineering Service & Estate Office	200.00	1.00	200.00	266.00

S.N.	Room Name	Unit Size (Sqm.)	No. of Rooms	Carpet Area (sqm.)	Gross Area (Sqm.) (Carpet area X 1.33)
1	**4**	**5**	**6**	**7**	**8**
23	Academic Council Room	120.00	1.00	120.00	159.60
24	Board Room	180.00	1.00	180.00	239.40
25	Committee Rooms: 2Nos	100.00	1.00	100.00	133.00
26	Reception Desk	60.00	1.00	60.00	79.80
27	Reception Lobby	300.00	1.00	300.00	399.00
					6004.95
					SAY 6000

7.4 STUDENT HOSTEL

7.4.1. As site of the proposed Central University is well connected with public transport facilities and also near to Ananthpurum the district headquarters, Students hostel is proposed for 60% of the students (excluding diploma students) only. Also, 20 married accommodations are proposed for Ph.D students and research associates with families. In addition, In addition, 7 houses are proposed for hostel warden.

Table 7.8:Space Requirements Students Hostel

	Student Housing (for 60% students)					
S.No.	**Particulars**	**Total number of students**	**No of Students (60%)**	**No. of rooms**	**Area (in sq mt)**	**Total Plinth Area (in sq meters)**
1.	Hostel for UG/PG Students (excluding 100 PG diploma students and 78 of Ph.D)	4330	2598			
A	Single rooms (10%)			260	10	2600
B	Double rooms (90%)		2410	1170	16	18720
2.	Hostel for Ph.D students and research associates	78	47			
A	Single rooms		38	38	10	380
B	Married accommodation (11 for research associates)		20	20	50	1000
3.	Toilet area			8	100	800
4.	Common room			3	200	600
5.	Store room			3	200	600
6.	Reception & Lounge			3	120	360
7.	Warden office			7	15	105
8.	750 seater Dining hall @ 2.5 sq.m/seat			3	1875	5625
9.	Wardens residence (7 out of 26 Assistant Professors, 60% 0f total assistant professor)			7	128	896
10.	Staff barrack			6	50	300
	Carpet area				Total	31986
	Covered area(1.25 * Carpet area)				Total	39982.5
					Say	**40000**

7.4.2 Student Amenities

Amenities proposed to be provided in the student residential complex shall comprise:

(a) **<u>Satellite Shopping Complex/ Student Activity Centre:</u>**

In a central place in the hostel sector (possibly in the basement of one of the messes) a 2500 sq. m. satellite commercial complex having the following facilities may be provided:

- Tailor Shop;
- Self-service Laundromat with provision for around 5 washing machines and dryers;

- Hair dressing Saloons --- one each for male and female students;
- Cycle and scooter/motor bicycle repair shop;
- Cobbler Shop;
- Dry Cleaning Shop;
- Electronic Typing, Binding and Reprography Facilities;
- Stationery and Book Shop;
- Post Office Counter with skeletal facilities;
- Bank Extension Counter and ATM Facilities;
- Local / ISD / STD Call Office; and
- The Maintenance Cell for Civil, Electrical, Water Supply, Sewerage and Telecommunication maintenance of the Hostel Complex.

(b) **Facilities for Co-Curricular Activities:**

The following facilities may be provided for Outdoor / Indoor Sports and Literary & Cultural Activities / Hobbies in close proximity to the Hostels:

- Tennis Courts (flood lit, if possible) and Tennis Wall;
- Badminton Court
- Hockey/Fottball
- Cricket field
- Gymnastics with weight-lifting equipment and a gymnastic trainer;

(e) Facilities for Literary & Cultural Activities:

- Music Room with a collection of popular instruments and a library of audio CD's / DVD's;
- Photography Room;
- Library of Literary Works;

- Facilities for Fine Arts (painting, sculpture, free-hand drawing, etc.; and
- Facilities for preparation of a student newspaper / magazine.

(f) Facilities for Hobbies:

- Hiking & Mountaineering Club; and
- Hobby Workshop with a machine shop & an electronic workshop.

(g) Student Activities Centre:

It is proposed that the Activity Centre complex may comprise the following facilities:

- Gymnasium Hall to serve as the venue for indoor basketball, badminton and table tennis;
- Activity Rooms --- 12 -15 in number for individual creative activities and hobbies;
- Sports Store;
- Creative Activities Store;
- Small Committee Room for meetings of Activity Organizers;
- Sports & Games Office;
- Recreational & Creative Activities Office;
- Publications Room (for preparation of student newspaper / magazine);
- Office for Faculty Advisors for Sports & Recreational Activities and Student Office Bearer.

(h) An Open Air Theatre:

An Open Air Theatre located adjacent to the Student Activities Centre may be provided for holding outdoor functions such as informal dramatic and musical performances by the students and prize distributions. It should be relatively small in size with a seating capacity for say 300 persons and should have minimal facilities such as a stage and a couple of green rooms with attached toilets.

7.4.5 Built-up Space for Hostels and Student Amenities

Details of the envisaged space requirement for the Hostels and Student Amenities as described hereinabove are indicated hereunder in Table 7.9.

Table 7.9: Built-up Space for the Hostels and Student Amenities

Sr. No.	Items	Area (sq. m.)
1	Hostels	40000
2	Student Amenities	2500
	TOTAL	**42500**

7.5 ACADEMIC & SUPPORT STAFF RESIDENCES AND AMENITIES

7.5.1 Faculty Residences

It is proposed that on-campus housing of the following categories be provided to 60% of the faculty in a phased manner:

- **Vice Chancellor's Residence**: A vice chancellors residence is to be provided within the campus of Central University, Andhra Pradesh.
- **Category I** (for Professors and equivalent research faculty /non-teaching academic staff / Statutory Officers)
- **Category II** (for Associate Professors and equivalent research faculty /non-teaching academic staff / Statutory Officers)
- **Category III** (for Assistant Professors) and equivalent research faculty /non-teaching academic staff / Statutory Officers.

7.5.2 Support Staff Residences

(a) It is proposed that on-campus housing of the followingcategories may be provided to 25% of tenured support staff included under Categories I, II& III.

(b) Houses in each category may be built in a phased manner. Also some Type I, II and III houses may be specifically earmarked for allotment to essential staff such as Administrative staff, Drivers, Security Supervisors, Maintenance Staff, etc.

Table 7.10: Space Requirement for Faculty and Staff Residence

S.No.	Designation	Pay Band	Nos.	Area as per GPRA	Total
1	Vice Chancellor	80000(fixed)	1	496	496
2	Professor and Deans	10000	7	268.5	1879.5
3	Associate Professor	9000	13	200.5	2606.5
4	Assistant Professor	6000	20	128	2560
5	University Librarian, Registrar, Finance Officer and Controller of examination	10000	4	268.5	1074
6	Deputy Librarian	7600	1	200.5	200.5
8	Assistant Librarian	5400	1	200.5	200.5
9	Type -III	4200-4800	1	148	148
10	Type – II	1900-4200	3	128	384
11	Type-I	1300-1900	8	80	640
				Total	11133.4
				Say	**11200**

Note: The Faculty Housing Areas has been calculated as per the New Plinth Area norms 2012 for General Pool Residential Accommodation (GPRA) (Annexure XX)

7.5.3 General Amenities

Area of 1500 sqm. is proposed for General Amenities. The following general amenities that are a common requirement of all sections of the institute community are proposed to be provided:

- Commercial Facilities
- Communication Service;
- Security Service;
- Transport Service;
- Vehicle Parking.

(i) Commercial Facilities:

On-campus commercial facilities as indicated hereunder may be provided for purchase of day-to-day necessities:

- Shopping Complex for provisions, consumer products, fruits and vegetables, meat, milk, books, periodicals & stationery;
- Bank Extension Counter;
- Energy Source such as LPG, etc.;
- Haircutting Saloon;
- Tailoring Shop;
- Pharmacy;
- Post Office;
- Telecom Centre with telex, FAX and local/STD/ISD call facilities;
- Reprography, Electronic Typing & Binding facilities;
- Dry Cleaning Shop;
- Rudimentary scooter/car repair facilities; and
- Parking Lot for cars/scooters/bicycles.

(ii) **Communication Service:** It is proposed that the following communication facilities may be provided:

- Internal telephones in the Vice Chancellor's Residence, all Type I/II/II/A Residences and the Warden's Residences having direct inward dialling facility. Provisions for making local / STD calls may also be made in the Vice Chancellor's Residence and the Type I residences;
- Internal telephones in all faculty offices and in all academic / administrative units, commercial establishments, health centre, hostels, guest house, campus school, student activity centre, etc.;
- Telecom Centre with telex, FAX and local/STD/ISD call facilities;
- A central TV Antenna System for all residences;
- Uplink and downlink facilities to the national educational satellite (EDUSAT);
- A closed-circuit TV system for educational use; and

(iii) Security Service

(a) For a self-contained campus provision of security is very important. It is proposed that such services be outsourced to an outside contractor under the supervision of the University Security Officer. It is further suggested that the campus be protected by a high compound wall with a limited number of gated access / exit points. The gates would have CCTV cameras to monitor incoming and outgoing traffic --- both residents and visitors. In addition to security at the access / exit points, night patrols should also be arranged. The campus security may also be responsible for traffic and parking control inside the campus for which a suitable set of rules and a programme of implementation would need to be worked out. All residents of the campus (including family members of faculty & staff, students, commercial vendors and contract staff) should be provided with an identity card. Also all vehicles (cars, scooters, motor bicycles, bicycles) regularly plying on the campus be issued with a campus registration permit.

(b) For the effective functioning of the security unit the guards provided by the outsourcing contractor should undergo training at periodic intervals. Also the following facilities may be provided to the security unit:

- Jeeps & motor bicycles;
- Walkie-talkies;
- Kiosks at access points to the campus (provided with telephones);
- CCTV's at strategic points;
- Barracks as rest facility for night-shift guards.

(iv) Transport Service

The University must also have access to a complement of cars, vans, buses and jeeps preferably on a regular contract with a private transport contractor failing which on ownership basis. In the event transport services are to be provided on ownership basis there would be need to arrange for their regular

servicing either through a suitably equipped and well-staffed captive automobile repair shop or through an outside service contractor.

(v) Vehicle Parking

Although it is expected that the campus would to a very large extent be a pedestrian campus nevertheless some parking lots may be provided at convenient locations in the academic complex and adjacent to individual Hostels, the Guest House, the Student Activity Centre, the Health Centre, the Shopping Centre, the Auditorium, the Community Centre, etc. Also garages for University vehicles should be provided in the academic complex.

7.5.4 Guest House

(a) It is proposed that an international standard guest house to accommodate 18 guests may be provided. For Guest House an area of 1840 sqm is proposed. It may include:

(i) 2 suites having a TV and a telephone connection through the campus EPBX exchange with direct inward dialling facilities for use of VIP visitors and special guests of the University; and

(ii) 16 deluxe / standard rooms designed for single/twin bed occupancy.

Table 7.11:- Space Requirement for Guest House

Room Name	Unit Area (Sqm.)	No. of Rooms	Carpet area (Sqm.)	Gross Area (Sqm.) (Carpet area X 1.33)
Guest Room	30.00	16	480.00	640.00
Living Suite	40.00	2	80.00	106.40
Utility	15.00	3	45.00	59.85
Electric Room	10.00	1	10.00	13.30
Ladies Toilet	18.00	3	54.00	71.82
Gents Toilet	18.00	3	54.00	71.82
A.H.U. Room	12.00	3	36.00	47.88
House Keeping	12.00	3	36.00	47.88
Time Office	15.00	1	15.00	19.95
Reception & Entrance lobby	100.00	1	100.00	133.00
Store	30.00	3	90.00	119.70
Lift	6.00	4	24.00	31.92
Kitchen	80.00	1	80.00	106.40
Dining Room	120.00	1	120.00	159.60
Administration	50.00	1	50.00	66.50
Server Room	10.00	1	10.00	13.30
Recreation Room	80.00	1	80.00	106.40
Janitor Room	6.00	3	18.00	23.94
Total			**1382.40**	**1838.66**
				Say 1840

7.5.5 Health Centre

For Health Centre 1500 sqm area is proposed. To cater to the health care needs of University employees and students and their dependents it is proposed that a Health Centre which caters to the general outpatient and emergency hospitalization needs of registered users having facilities as indicated hereunder may be provided on the university campus.

Table 7.12:- Space Requirement for Health Centre				
S.No	**Items**	**No. of Units**	**Area per unit**	**Area (sq.mt.)**
1	10 bed Hospital for indoor patient	10	30	300
2	Emergency Room	1	90	90
3	Computer based health record facilities	1	75	75
4	X-ray,ECG& Physiotherapy facilities	3	30	90
5	Pathological testing facilities (for blood , urine etc.)	1	225	225
6	Dispensary / Pharmacy	1	30	30
7	First -Aid Room	1	30	30
8	Physicians	3	20	60
9	Drinking water facilities	1	45	45
10	Sanitation Control	1	60	60
11	Toilet	1	45	45
12	Pantry	1	30	30
13	Waiting Lobby+Nurses station	1	120	120
	Total Carpet Area(80% of total built-up area)			**1200**
	Circulation & Passage area (25% of carpet area)			300
	Total Built-up area			**1500**

7.5.6 Built-up Space Requirement for Staff Housing and Amenities

Details of the space requirement for Academic and Support Staff Housing and Amenities as described hereinabove are indicated hereunder in Table 7.13.

Table 7.13: Built-up Space for Academic & Support Staff Housing and Amenities

S.No.	Residential Complex	Area in sq.m.
1	Guest house	1840
2	Health Center	1500
3	Faculty Housing	11200
4	Community Centre/commercial facilities for staff	1500
	Total	16040

7.6 UTILITIES

The requirement of Utilities to meet the needs of the University is indicated hereunder:

7.6.1 Water Supply and Water Harvesting/Recycling System

(i) It is estimated that in a framework of 7 years on completion of its first phase of development the Institute would need to arrange supply of fresh water to the tune of 0.86 MLD to cater to the needs of around 2696 students and 74families resident on-campus plus around 300 daily visitors besides meeting the fresh water needs of the academic services. As the University is proposed to be established in a remote area there would be no access to municipal supply of treated fresh water but would have to meet its requirement for fresh water by pumping water from nearby rivulets. There would thus be need to provide pumping facilities from the water source plus on-campus water treatment facilities besides underground and overhead storage tanks plus a distribution network to supply the water to the users. It would also need to have a system in place for daily monitoring of water quality.

(ii) Further noting that water is invariably in short supply it is proposed to integrate water harvesting with the design of all campus buildings and to use the harvested water for kitchen and bathroom usage after due filtration.

7.6.2 Electric Supply

(i) It is estimated that that in a framework of 7 years on completion of its first phase of development the University would need to make arrangement to procure around 5.59 MW of power through a dedicated 33 KVA double circuit line from the nearest sub-station of the State Electricity Board to a 33 KVA sub-station on the University campus. Thereafter step-down to 220 volts and distribution to various campus sites would have to be arranged internally.

(iii) In order to conserve energy resources the principles of solar passive architecture must be explored to minimize thermal comfort within buildings.

7.6.3 Disposal System for Solid / Biological / Chemical / Radio-active waste

It is suggested that a system of separation of solid waste in terms of recyclables, bio-degradable and other material at source should be introduced from inception of the University. Also incinerators for disposal of bio-degradable garbage and a mechanized collection system catering to the Hostels (including the messes) and households should be provided. Furthermore, a system for disposal of chemical/biological/radio-active waste may be provided close to the Laboratory Complex and the Health Centre.

7.6.4 Drainage System

Water logging is a perpetual problem during the monsoon season leading to unhygienic conditions and the spread of water-borne diseases. Special attention should therefore be laid to have a suitable drainage system in place.

7.6.5 Internal Roads and Footpaths

Footpaths for pedestrian movement would need to be provided on the cliff side on all internal roads. The footpaths would have multiple railing with pipes carrying optical fibre cables, potable water, etc.

7.7 EQUIPMENT & FURNITURE

7.7.1 Equipment and furniture is needed for:

- Teaching and R&D Activities;
- Library & Information Support Services;
- The Academic Support Facilities;
- The Administrative Support Services;
- Furniture & Equipment for Student Hostels / Mess Kitchens / Guest House / Auditorium-cum- Conference Centre / Health Centre / Student Co-Curricular Activities / Gymnasium etc.

Chapter 8

ENVIRONMENT IMPACT ASSESSMENT

8.1. BACKGROUND

All construction and infrastructure development activities are associated with use of natural resources and impact on the natural environment. To prevent & control the potential negative environmental impact from setting up of such kind of infrastructure project, it is must to conduct preliminary environmental impact evaluation after finalizing the land for development of project. Considering the fact, site visit was organized to do the reconnaissance survey of the proposed project site. During site visit environmental feature of the site was witnessed and exact geographical position of the project site was ascertained by taking the Coordinate of the site (Latitude and Longitude). Coordinate of the project site helped to identify the important infrastructural & environmental sensitive feature located near to the project site of proposed Central University.

Site specific following information helps to know about local environmental conditions:

(i) Availability of water resources near to the project site,
(ii) Ground water depth of the area,
(iii) Nearest common municipal solid waste management facility,
(iv) Presence of important floral and faunal species in the surrounding areas,
(v) Nearest industrial area from the project site,
(vi) Present practice being carried out for management of all type of waste (liquid and solid waste),
(vii) Ground water and Air quality of the area,
(viii) Source of electricity near to the project site,
(ix) Presence of common Sewage treatment facility,
(x) Nearest coal based thermal power plant,

Above information have been collected from the secondary sources and it has been incorporated in the report for preparation of environmental management plan. It is important that prior to start the construction activities at the project site, it is necessary to identify the potential and significant environmental impact due to the proposed institutional infrastructure set up on the various environmental attributes of the area and further to frame Environment Management Plan (EMP) in detail and preparation of their management cost *i.e.*Environment Budget for conservation and Management of surrounding environment attributes. EMP also includes administrative and technical setup, summary matrices, and cost of implementation of environmental measures during the pre-construction phase, construction phase and entire operational phase of the proposed Centrla University.

8.2. INTRODUCTION

Before the construction starts at full pace, it is necessary to identify the potential environmental impact by the proposed construction on the area and further to frame Environment Management Plan (EMP) and formulation of their management cost i.e. Environment Management Cost. The major environmental attributes on which the impact is broadly expected due to the proposed institutional infrastructure can be categorized as follows:-

- Ambient Air
- Surface and Ground Water
- Land Use Pattern
- Socioeconomic environment

The intent of this Environmental Management Plan is to make report on the baseline environmental data of the area, assess impacts of the proposed construction activities on the environmental features of the specific area, and suggest site specific suitable mitigation measures that can be adopted for better environmental planning of the overall project in cost effective manner.

Environment Management Plan includes administrative and technical setup, summary matrix of EMP, cost involved to implement EMP, both during the construction and operational phase.

The Environmental Impact Assessment is a 360 degree view of the activities that will come up during construction and are likely to come up during the operational phase of the project. The geographical location map showing the proposed site for development of Central University is shown in **Figure.8.1**Google image of the proposed project is shown as **Figure 8.2**

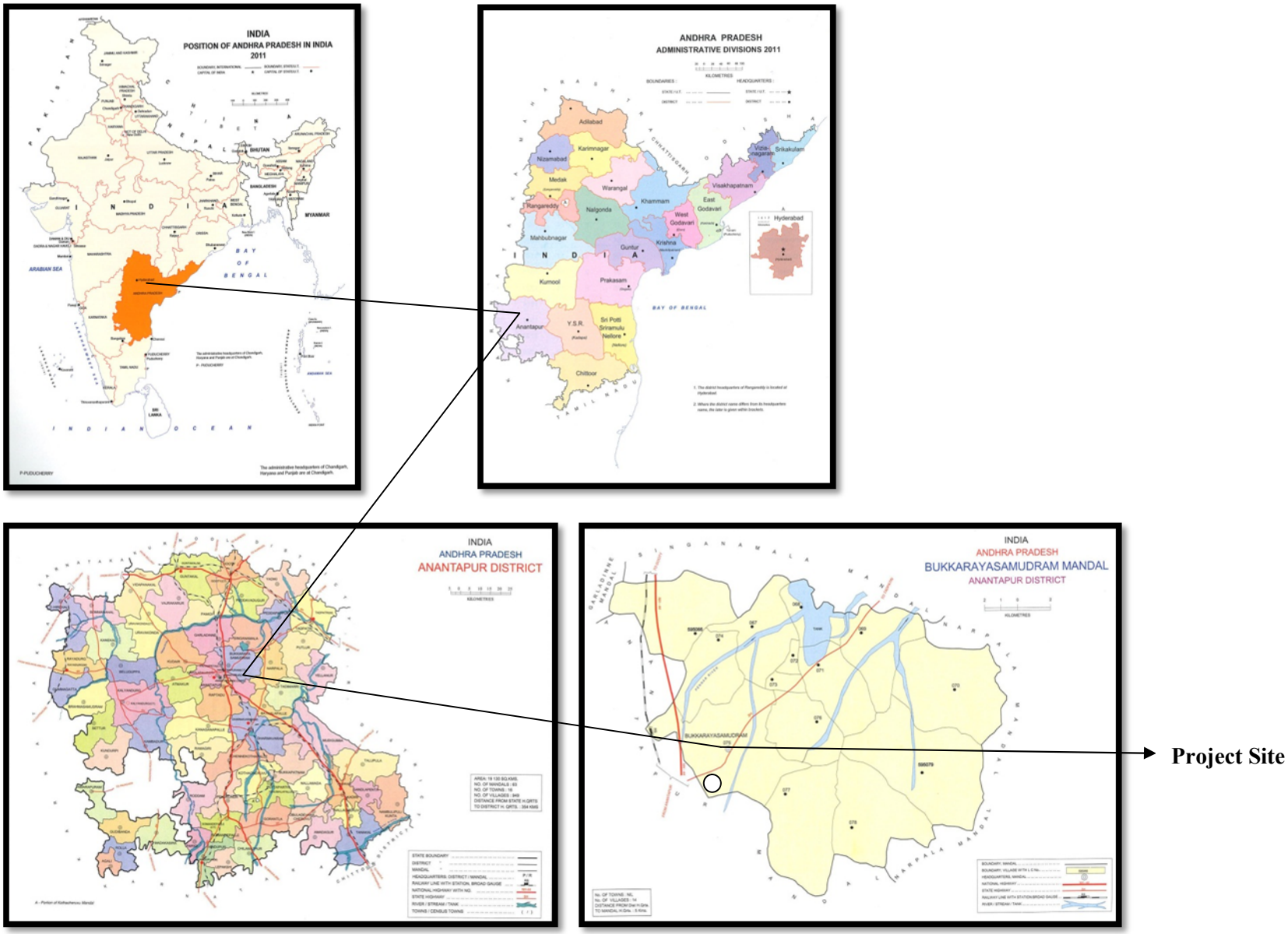


Figure: 8.1 Geographical Location Map of Proposed Site

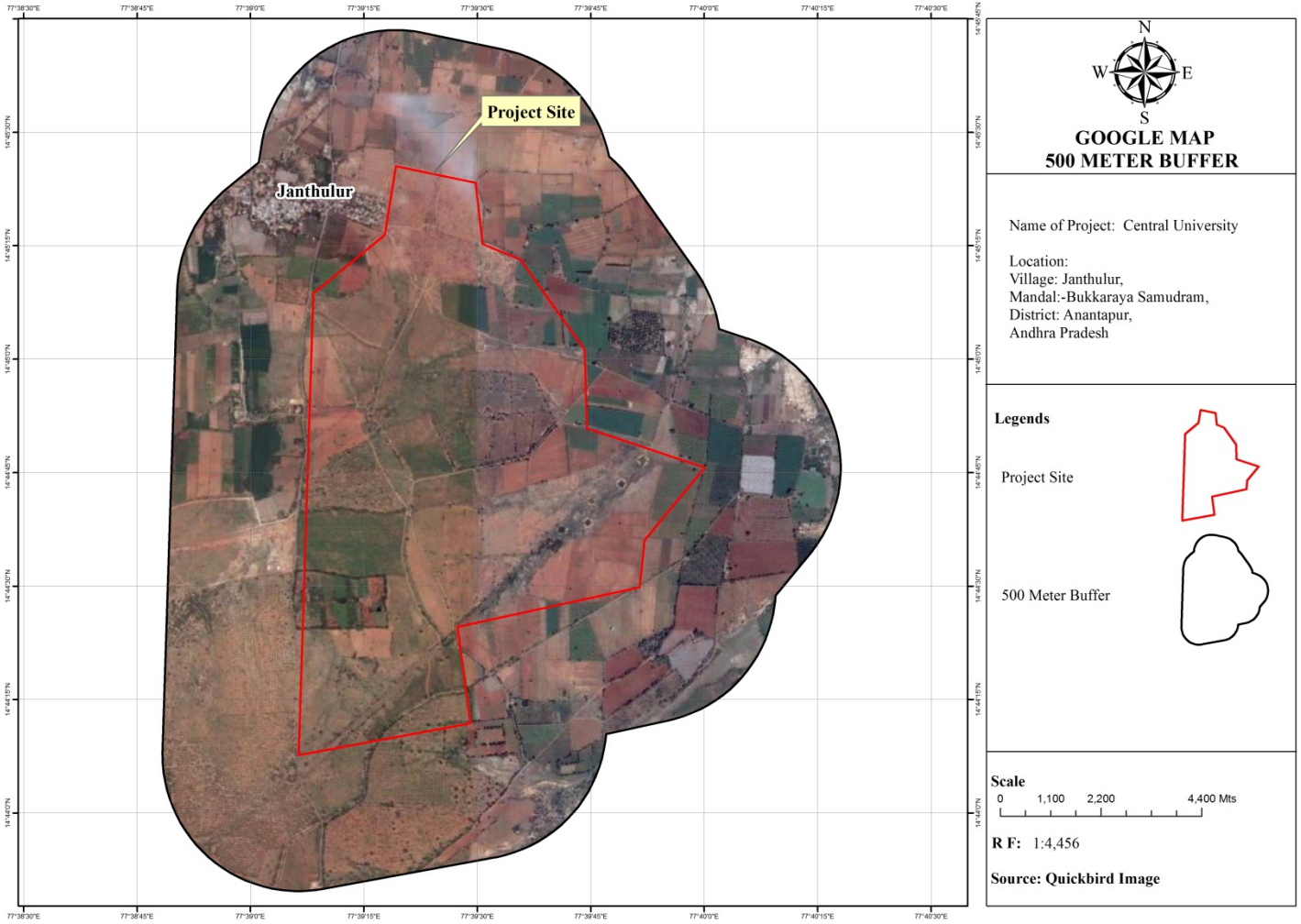


Figure: 8.2 Google map showing the proposed project site

8.3. STATUTORY APPROVALS REQUIRED IN PRE CONSTRUCTION STAGE FOR PROPOSED UNIVERSITY

Statutory Requirement	Applicable Act/Rules/Notification	Competent Authority	Compliance Status	Remarks
Environmental Clearance (EC) Applicable for Built up area(F.A.R + Non F.A.R)≥ 1, 50,000 sq.m. OR Land area of > 50 ha.	✓ Environmental Protection Act, 1986 ✓ Environmental Impact Assessment Notification 2006 (Item 8a of the schedule) and its subsequent amendments	State Environmental Impact Assessment Authority(SEIAA), Andhra Pradesh	To be obtained	To be obtained prior to start of construction.
Six Monthly Environmental Compliance Reportagainst Issued Environmental ClearanceLetter	✓ Environmental Impact Assessment Notification, 2006, Section 10	Regional Office of MoEF&CC, South Zone SEIAA, Andhra Pradesh	-	To be submitted to SEIAA, twice a year (1st Week of June and 1st Week of December) after the grant of Environmental Clearance. All the approved drawings and permissions that are obtained till date to be submitted within 3 months of grant of environmental clearance.
Consent to Establish (NOC)	✓ The Water (Prevention and Control of	Andhra Pradesh State Pollution Control Board (AP	To be obtained	To be obtained prior to start of construction.

Statutory Requirement	Applicable Act/Rules/Notification	Competent Authority	Compliance Status	Remarks
	Pollution) Act, 1974 ✓ The Air (prevention and control of pollution) act, 1981	SPCB)		
Consent to Operate	✓ The Water (Prevention and Control of Pollution) Act, 1974 ✓ The Air (prevention and control of pollution) act, 1981 ✓ Environment (Protection) Act 1986	Andhra Pradesh State Pollution Control Board(AP SPCB)	To be obtained	To be taken before start of operation
Use of fly ash for construction	✓ Fly ash Notification 1999 as amended up to date	-	-	Applicable to projects falling within 500 Km radius of a coal or ignite based thermal power plant.
Ground water abstraction	✓ Environment (Protection) Act 1986	Central Ground Water Authority (CGWA)	To be obtained	To be obtained for ground water abstraction from Regional Director CGWB
Sewage Treatment Plant	✓ The Water (Prevention and Control of Pollution) Act, 1974.	-	-	Provision of Sewage Treatment Plant of appropriate capacity to be provided at the project site in construction and operational phase.

Statutory Requirement	Applicable Act/Rules/Notification	Competent Authority	Compliance Status	Remarks
Clearance from National Biodiversity Authority	✓ Biological Diversity Act 2002	Andhra Pradesh State Biodiversity Board	Not Applicable	
Forest Clearance	✓ The Forest (Conservation) Act, 1980	Divisional Forest Officer	Not Applicable	
Tree Cutting Permission	✓ Andhra Pradesh Water, Land, Trees Act, 2002.	Forest Range Officer	Applicable, if tree cutting proposed	Will be required to be prepared at the time of Environment clearance from SEIAA, Andhra Pradesh

8.4. SITE DESCRIPTION AND SURROUNDINGS

The site is situated at an approximate distance of 5Km from NH-7 and approx.2 km from SH-30.The site falls under village Singanamala namely *"Lake Singanamala"*Lakeis situated 3km towardsNorth East. The site inspection revealed following surrounding features, which is summarized in table below:

Table 8.1: Site Surroundings

Name	Distance (km)	Direction
NH-7	5.83	West
SH-30	2.4	East
Janthaluru	0.25	North-West
Rotary Puram	2	East
Siddampeta	1.06	South
Reddypalli	1.74	South East
Govindpalle	4.34	South West
Singanamala Lake	3.16	North East

Table 8.2: Site Location

Proposed Project	Central University
Location	Village: Janthaluru , District: Anantapur
Latitude & Longitude	14°45'08.70"N and 77°39'08.28"E

A Google image in **Figure- 8.3** depicts the surrounding features of the site within 10 Km radius of the project site.

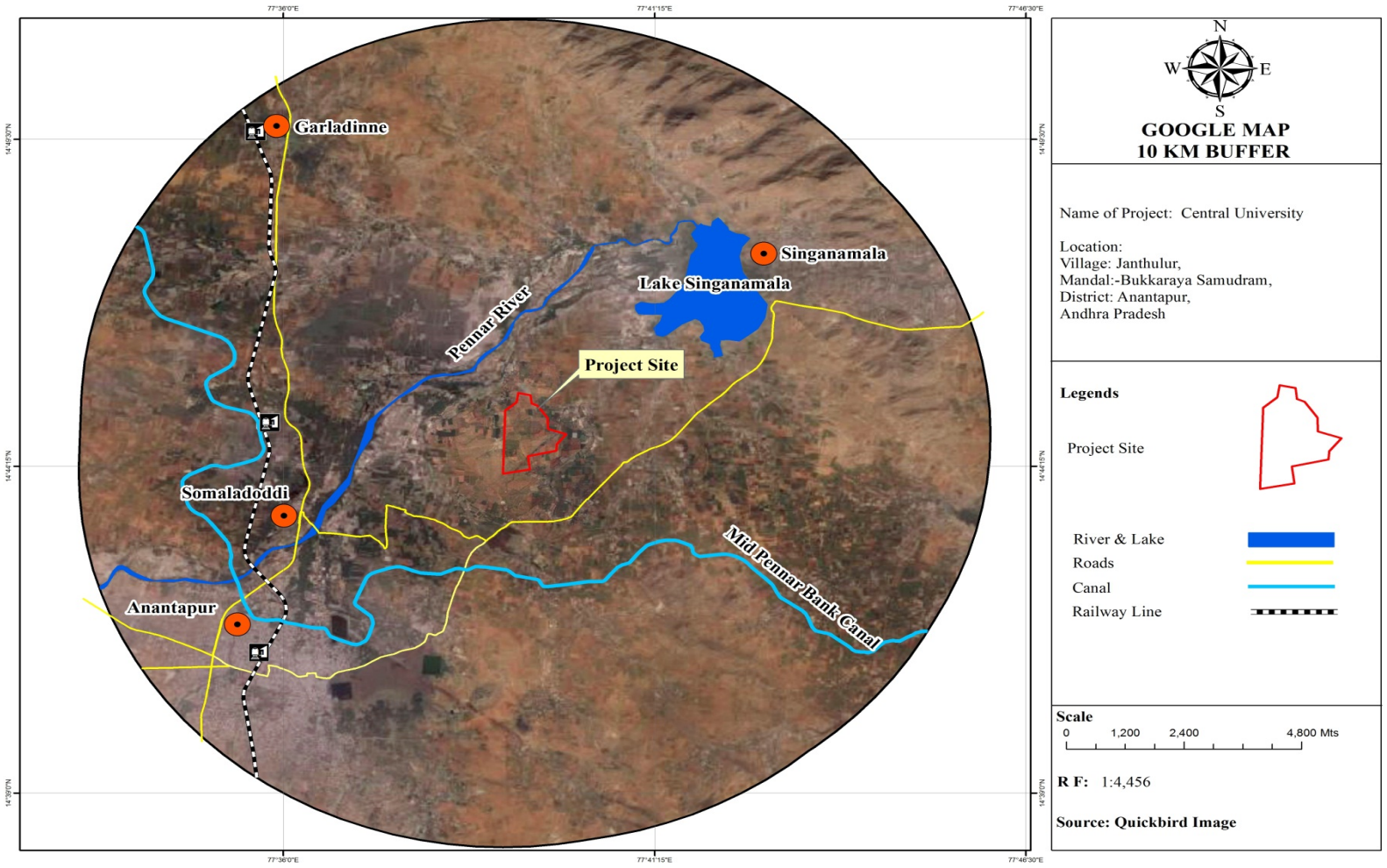


Figure: 8.3 Surrounding features within 10 km radius

Table-3 gives a summary of important features surrounding the project site.

Table 8.3: Important features surrounding project site

International Airport	Sri Sathya Sai Airport 66.6 Km towards South
Railway Stations	Taticherla Railway Station at 6.22 km towards West Basampalle at 48.6 km towards SW
Observatory IMD	Indian Meteorological Station Vishakhapatnam
National Highway	NH-7 at 4.99 km towards West
Nearby Villages	Janthalur at 0.25 km towards NW Reddypalli at 1.69 km towards S
Nearest access road	SH-30 at1 .58 km towards East
Hospitals	Asha Hospital at 8.69 km towards SW Dr.Akhbar Eye Hospital at 8.87 km towards SW

*All distances are aerial distances from the project site

8.5. PHYSICAL CHARACTERSTICS OF THE AREA

A. Topography & Physiography

Geomorphologically, Anantapur district forms the northern extension of Mysore Plateau.

The district has been classified into four major units based on relief, slope factor and soil i.e., (i) Denudation hills (ii) Dissected pediments (iii) Pediplains and (iv) Valley fills such as colluviums and alluvium.The topography of the land is such that it has a gradual fall from the South North towards the valley of the Pennar in Peddavadugur, Peddapappur and Tadipatri Mandals. There is a gradual rise in Hindupur, Parigi, Lepakshi, Chilamathur, Agali, Rolla and Madakasira Mandals in the South to join the

Karnataka Plateau where the average elevation is about 2000 feet above the mean sea level. It is about 1100 feet at Anantapur and the lowest 900 feet is at Tadipatri.

B. Geology

The district is underlain by various geological formations ranging in Age from Archaean to recent. Major part of the district is underlain by the granites, gneisses and schists of Archaean and Dharwar Supergroup. Northeastern part of the district is occupied by the quartzites, limestones, shales of Cuddapah and Kurnool Group of rocks. Alluvium is restricted to Pennar,

Vedavati andPapagni rivers.Older metamorphic sequences comprising biotite schist, hornblendite, pyroxenite and amphibolites of Archean age and younger group of sedimentary rocks belonging to Proterozoic age, are the main geological formations of the area. The area shows an excellent example of the remnants of an ancient sea floor, in which limestones, shales, quartzites etc., had been deposited. Quaternary gravel is present as lensoidal bodies along the Penner river in the Southern and central parts. Proterozoic rocks cover part of Tadpartri Mandal and eastern part of Gooty and Anantapur Mandals, The rest of the district is covered by schists, gneisses, migmatites, younger granites, pegmatites, quartz veins and basic dykes that have been metamorphosed and recrystallised (except basic dykes). The schist belts viz, Ramagiri and Kadiri are gold bearing ones. Greenish black bouldery dolerites are seen for over several kilometers in the central part of the district in NW-SE, E-W and NE-SE directions. A number of quaternary gravel horizons located along the Penner river contain pebbles and cobbles of quartz, granite, dolerites found embedded in Clayey matrix. The general trend of foliation of Peninsular Gneissic Complex and Metamorphics in NNW-SSE with steep dips. Foliation along NNE-SSE and N-S trends are also observed to east and NE of Ramagiri (140 181: 770 501).

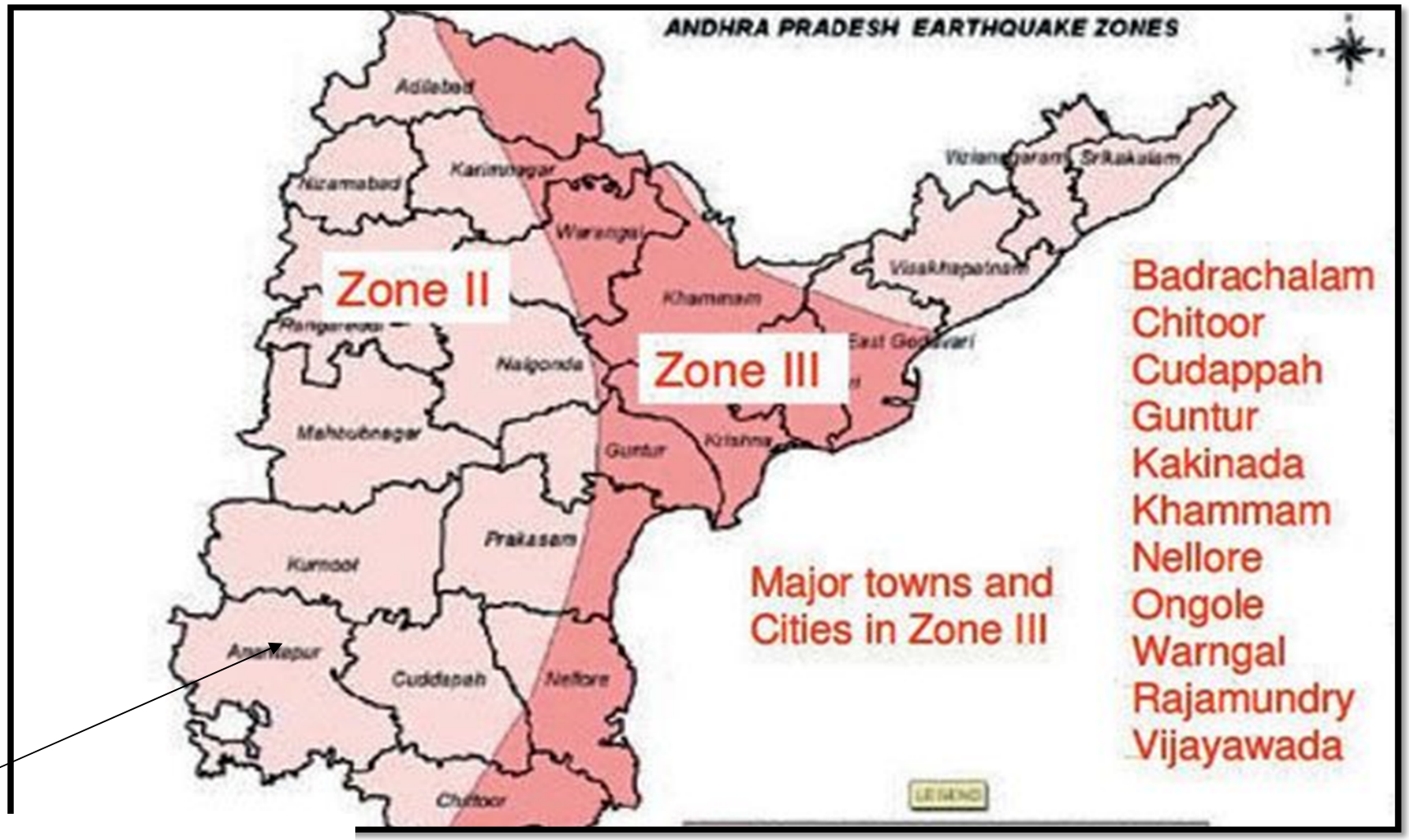
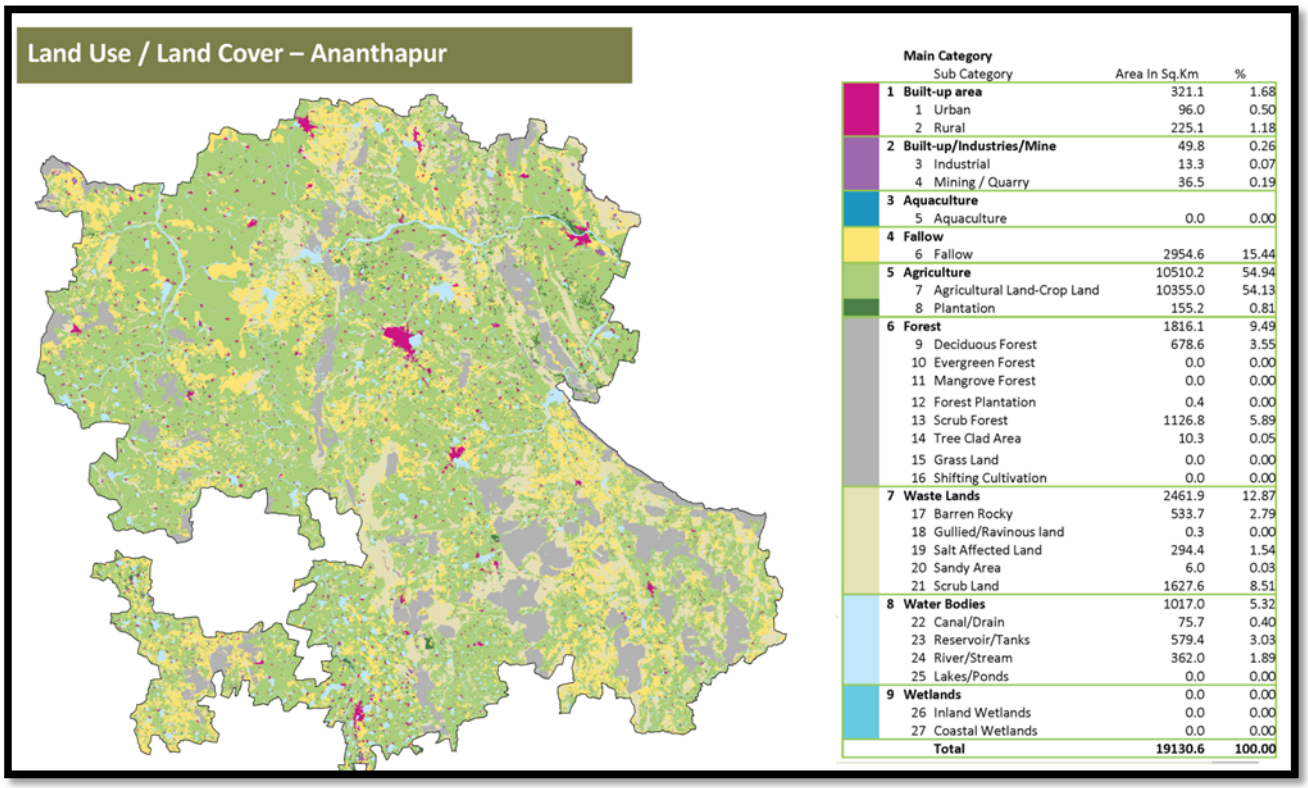


Figure 8.4: Location of Project Site Marked on Seismic Map of Andhra Pradesh

C. Soil type

76% of the soils in the district consist of red soil and 24% black soil. The soil can be classified as black clay, black loamy, black sand, red clay, red loamy and red sand.The soils of Anantapur originated from both the granite and granite-gneisss land forms, as wells as the Dharwar landforms. Both these land forms are characterised by hills and ridges and undulating and gently-sloping lands. There are about thirty-four soil families in the district of Anantapur, and among these, the Anantapur and Penukonda soil families are the most predominant.

D. Land Use:



Main Category / Sub Category		Area In Sq.Km	%
1	**Built-up area**	321.1	1.68
1	Urban	96.0	0.50
2	Rural	225.1	1.18
2	**Built-up/Industries/Mine**	49.8	0.26
3	Industrial	13.3	0.07
4	Mining / Quarry	36.5	0.19
3	**Aquaculture**		
5	Aquaculture	0.0	0.00
4	**Fallow**		
6	Fallow	2954.6	15.44
5	**Agriculture**	10510.2	54.94
7	Agricultural Land-Crop Land	10355.0	54.13
8	Plantation	155.2	0.81
6	**Forest**	1816.1	9.49
9	Deciduous Forest	678.6	3.55
10	Evergreen Forest	0.0	0.00
11	Mangrove Forest	0.0	0.00
12	Forest Plantation	0.4	0.00
13	Scrub Forest	1126.8	5.89
14	Tree Clad Area	10.3	0.05
15	Grass Land	0.0	0.00
16	Shifting Cultivation	0.0	0.00
7	**Waste Lands**	2461.9	12.87
17	Barren Rocky	533.7	2.79
18	Gullied/Ravinous land	0.3	0.00
19	Salt Affected Land	294.4	1.54
20	Sandy Area	6.0	0.03
21	Scrub Land	1627.6	8.51
8	**Water Bodies**	1017.0	5.32
22	Canal/Drain	75.7	0.40
23	Reservoir/Tanks	579.4	3.03
24	River/Stream	362.0	1.89
25	Lakes/Ponds	0.0	0.00
9	**Wetlands**	0.0	0.00
26	Inland Wetlands	0.0	0.00
27	Coastal Wetlands	0.0	0.00
	Total	19130.6	100.00

Figure 8.5: Land use map of Ananthapur district

Source: Andhra Pradesh State Remote Sensing Application Centre (2011-12)

E. **Drainage and Floods:** Nearly 80% of the district is drained by the river Pennar and its tributaries like Chitravati, Papagni, Maddeleru, Tadakaleru & Maravanka. The joints andfractures structurally control majority of the streams. Radial drainage pattern is seen near Kalyandurg, Rayadurg and Urvakonda villages. All the streams are ephemeral in nature.

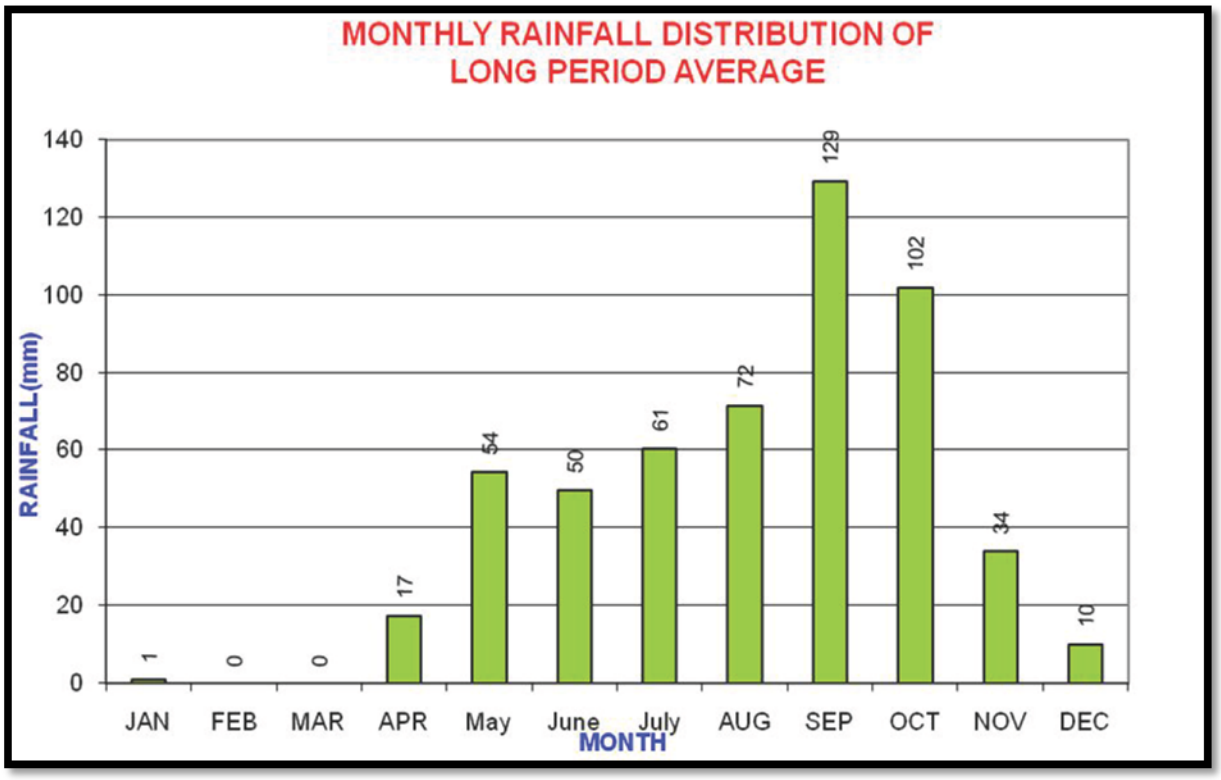
8.6. CLIMATE& RAINFALL

There is scanty rainfall in the district. The average rainfall in the district isaround 553.0 mm. Even this rainfall is not evenly distributed in the district there by causing severe draught conditions frequently. So that it is unfortunate location. Being far from the east coast, it doesn't enjoy the full benefits of north-east monsoon and being cut off by the high Western ghats, the south west monsoon are also prevented from penetrating and punching the thirst of these parched soils. It is therefore seen the district is deprived of both the monsoons and subject to drought due to bad seasons. Anantapur district has a fairly good elevation which provides the district with tolerable climate throughout the year. It has a gradual fall from the south to the north towards valley of Pennar in Peddapuram, Peddavadaguru and Tadipatri mandals.There is gradual rise in Hindupur, Lepakshi, Parigi, Chilamathur, Madakasira, Agali and Rolla mandals in the south to join the Karnataka plateau where the average elevation is about 2000 feet is above the mean sea level. It is about 1100 feet at Anantapur and lowest is 900 feet at Tadipatri. The variation in climate conditions is large between summer when maximum temperature touches 45° C in the month of April and May and lowest temperature of 13°C in winter months of December. Madakasira, Hindupur, Parigi, Lepakshi, 72Chilamathur, Agali, Rolla mandals being at high elevation are cooler than the other mandals in the district.

The average annual rainfall of the district is 535 mm, which ranges from nil rainfall in February and March to 129 mm in September. September and October are the wettest months of the year. The mean seasonal rainfall distribution is 316 mm during southwest monsoon (June- September) 146 mm during northeast monsoon (Oct-Dec), 1 mm rainfall

during winter (Jan-Feb) and 72 mm during summer (March-May). The percentage distribution of rainfall season wise is 58.7% in southwest monsoon, 27.6% in northeast monsoon, 0.21 percentages in winter and 13.5% in summer.

The annual rainfall ranges from 364.2 mm to 867.1 mm. The annual rainfall departure ranges from -31% to 64%. The southwest monsoon rainfall contributes about 59% of annual rainfall. It ranges from 157 mm to 537 mm.



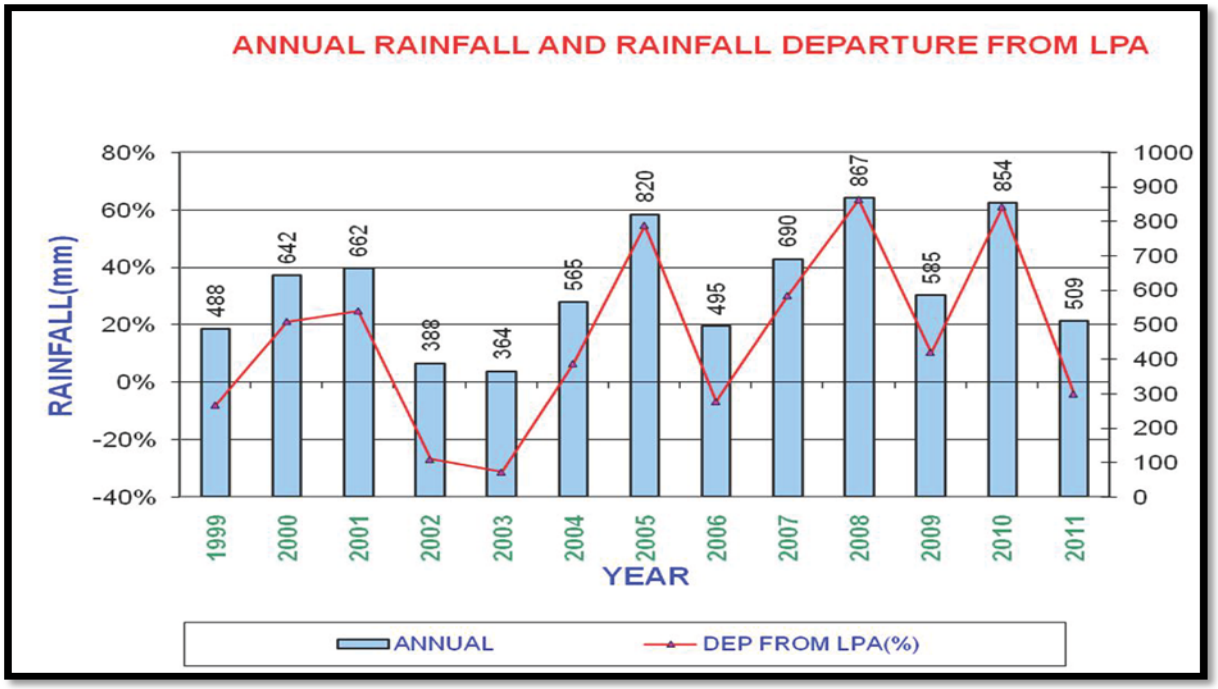
8.7. TEMPERATURE

Anantapur has a tropical savanna climate with little change in temperature throughout the year. During thesummer the temperature ranges between 29-40 degrees and in winter it falls about 15 Degrees.

8.8. GROUND WATER

The district is underlain by granite gneisses and schists of Archaean age and formation of Cuddapah Super Group belonging to upper Precambrian to lower Paleozoic Age. River alluvium occurs along the major river courses and to some extent along minor stream courses.

- The depth to water level during pre-monsoon (2012) ranges from 0.65-11.97mbgl. The shallow water levels of 2 m are observed in southern part of the area at three locations. The depth to water levels between 5-10 m is observed in majority of the area. Deeper water levels of >10 m bgl are observed in the North Eastern and South Eastern parts of the area.
- The depth to Water level ranges from 0.37 to 15.26mbgl during the post monsoon period(2012). The areas having water levels of <5 m during pre monsoon have come upto 2-5 m bglwith minimum recharge and the area having water level of more than 10 m bgl have come upto5-10 m bgl in southwestern and northern eastern part of the district.



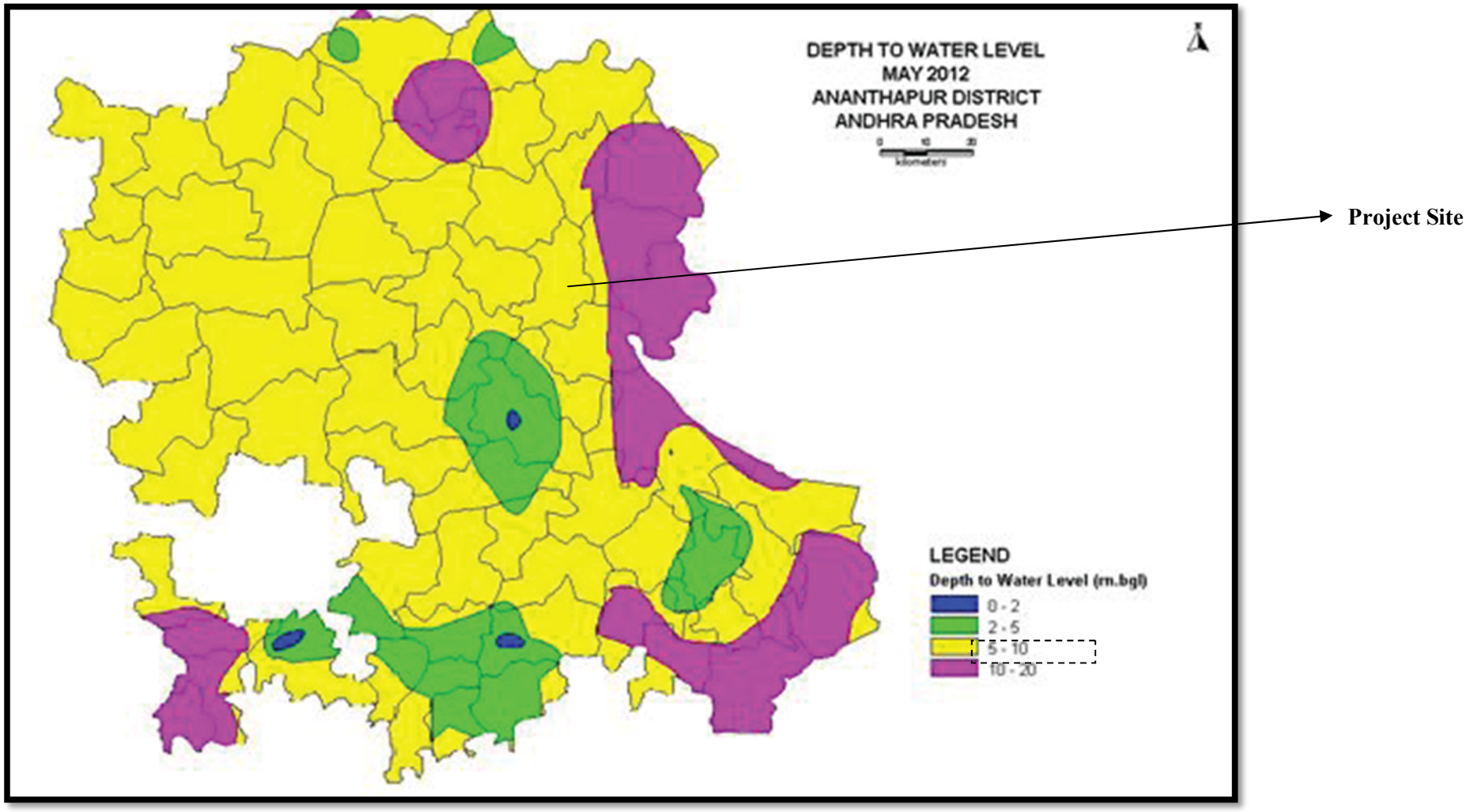


Figure 8.6: Pre-monsoon Depth to Ground water in the district

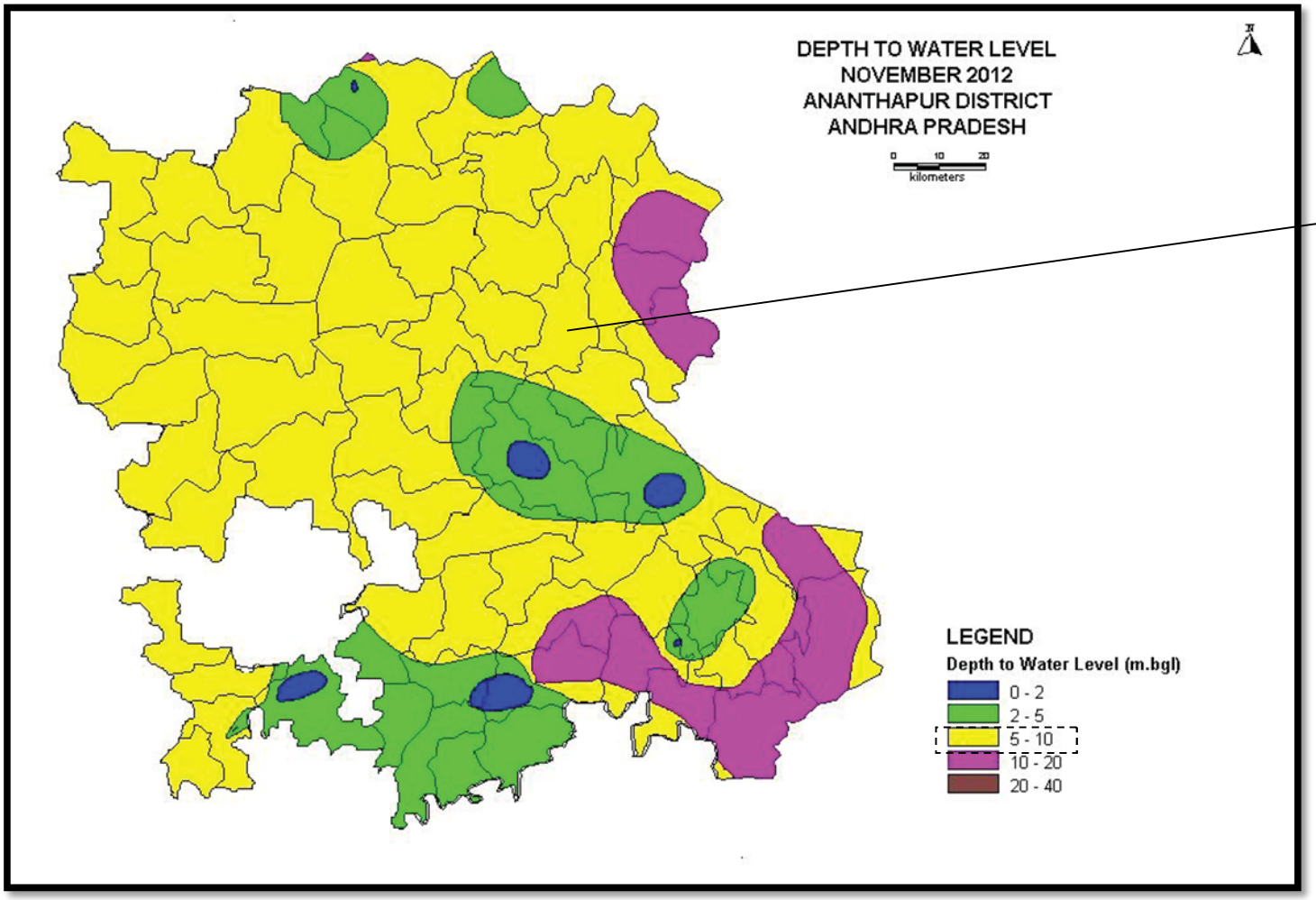


Figure 8.7: Post-monsoon Depth to Ground water in the district

a) Status of ground water

Out of the total 65 mandals, 15 mandals fall in over exploited areas where the ground water development is more than 100%. Caution is to be exercised in these mandals for future ground water development.

The Bukkarayasamudram Mandal, where the project site is proposed falls in the semi critical zone.

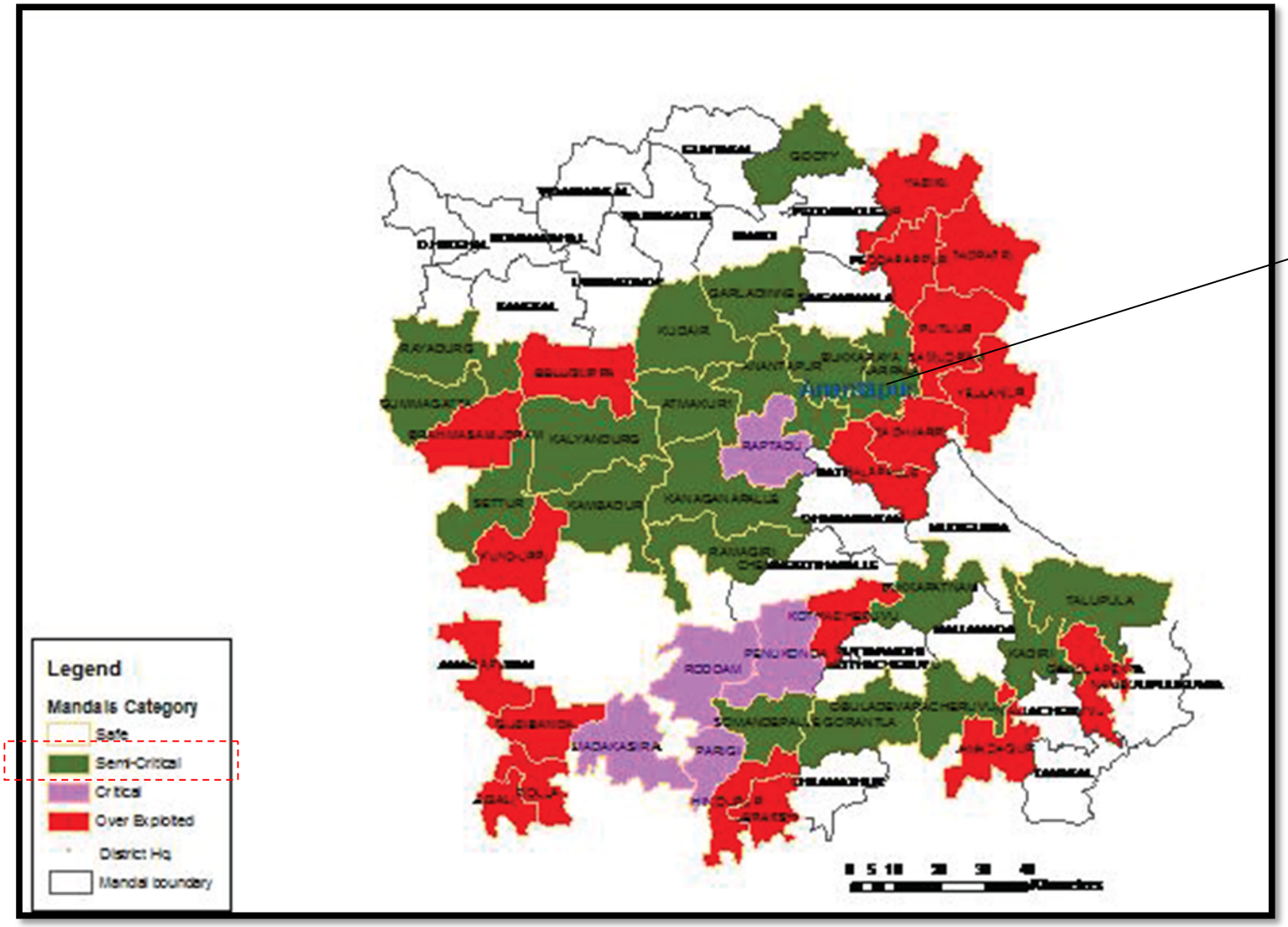


Figure 8.8: Status of ground water yield potential of Anantapur district

b) Ground water Quality

The ground water in the district is in general suitable for both domestic and irrigation purposes. The Electrical Conductivity ranges from 569 to 9980 micro Siemens/cm at 25^0C. Fluoride concentration in some locations of the district is more than permissible limit. In some places, it is not suitable for drinking due to the presence of Nitrates. A total of 993 fluoride affected villages exist in the district.

The deep ground water is generally alkaline, but about 70% of the samples have fluoride content of more than permissible limit of 1.5 mg/l. As far as for the irrigation use is concerned, all the samples fall in 'excellent' category. The deep waters are generally suitable for irrigation purposes.

Source: Ground water brochure, Anantapur district, Andhra Pradesh, Southern Region Hyderabad, September 2013

8.9. AIR QUALITY

Andhra Pradesh Pollution Control Board is monitoring the ambient air quality in the head quarters of the three districts. The monthly average concentration of the RSPM and TSPM are given in the graph below.

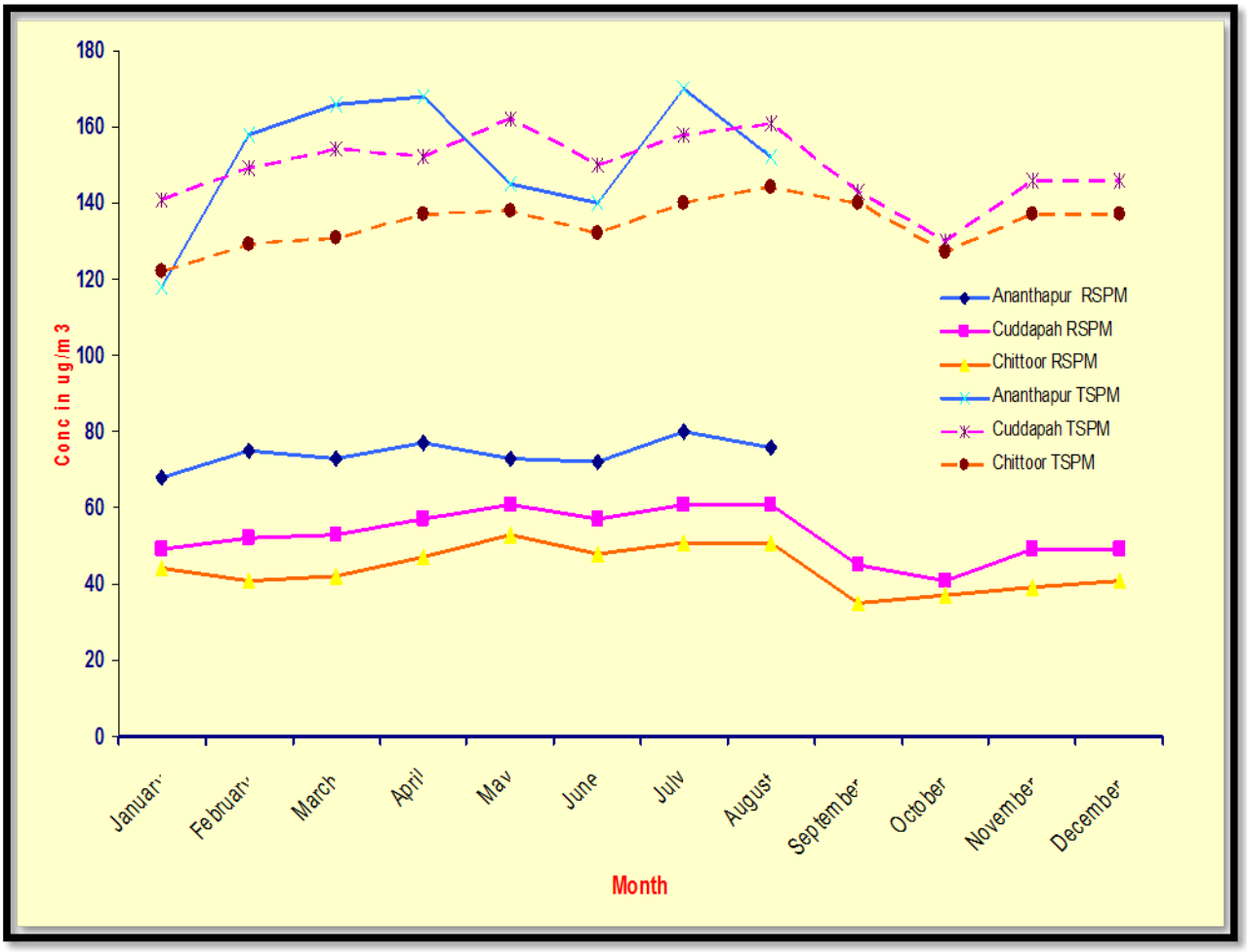


Figure 8.9: AAQ in Anantapur district

- The RSPM concentrations are exceeding the standards of NAAQS at Anantapur but are meeting the standards at Cuddapah and Chittore.
- The TSPM concentrations are exceeding the standards at all the three locations
- The % of RSPM to TSPM is 50% at Anantapur. In Cuddapah and Chittoor the % of RSPM to TSPM is 33%
- The concentrations are uniform most of the time through out the year.

During the project execution stage there would be requirement to generate site specific Ambient air Quality.

8.10. SOCIO-ECONOMIC CONDITIONS

Andhra Pradesh is one of the major states in India and ranks 5thhaving a total population of 84,58,0,777 as per census 2014 before bifurcation.However, after division of Telangana,Seemandhra(new name) stands on 10thposition as its total population left only 49,38,6,799. The new capital of Andhra Pradesh is in Guntur District and east of Guntur City and will be developed under a new Capital Region Development Authority. As per Andhra Pradesh Reorganization Act, 2014, Hyderabad will remain the de jure capital of both Andhra Pradesh and Telangana states for a period of time not exceeding 10 years. There are 13 districts in the state. Andhra Pradesh has two regions which are distinct in terms of socioeconomic characteristics and have region specific resource base. Among these thirteen districts, 9 in Coastal Andhra and 4 in Rayalaseema. The demographic details of Anantapur are as follows.

The Project site is in Village Janthaluru of Anantapur District of Andhra Pradesh. The demographic data reveals that Number of females is equal to number of male. Children are about 11 % of total population. The village is dominated by general caste while the schedule caste and schedule tribe are forming 4 % and 2 % respectively. There are 51 % literate while 47% illiterate. Number of non-workers are 41 % while workers are forming about 46%. Gender wise analysis reveals that the male workers are more than females. The occupation wise analysis shows that the other workers (tertiary jobs) are most practiced followed by agricultural labour& cultivator. The household industries are very less.

Table 8.4: Census details of Core zone Village

Items	Details
Town/Village	595067
Name of Village	Janthulur
Number of Household	645
Total Population	2584
Total Male	1292
Total Female	1292
Children	286
Schedule Caste	473
Literate	1330
Illiterate	1254
Total Worker	1521
Total Non-Worker	1063

Source: Census of India- 2014 (Figures in parenthesis represent percent value)

8.11. ENVIRONMENTAL IMPACTS WITH MITIGATION

This section identifies and predicts the potential impacts on different environmental attributes due to the construction and operation of the proposed project. It details out all the potential impacts on biophysical and socio-economic components of the local environment due to the proposed activities and sub-activities.

Prediction of impacts is the most important component in the Environmental Impact Assessment studies and formulation of Environmental Management Plan (EMP). Several qualitative as well as quantitative techniques and methodologies are used to conduct analysis of the potential impacts likely to occur as a result of the proposed development activities on physical, ecological and socio-economic environments. Such predictions are superimposed over the baseline (pre-project) status of the environmental quality to derive at the ultimate (post-project) scenario of environmental conditions. The prediction of impacts helps to minimize the adverse impacts and maximize the beneficial impacts on environmental quality during pre and post project execution.

The proposed institutional project would create impacts on the environment in two distinct phases:

During the construction phase which may be regarded as temporary or short – term impacts and during the operation stage, which would have long term effects.

The negative impacts of the project will be mitigated/prevented/controlled by relevant regulatory activities. Most of them would be transitory in nature. Details of the control and preventive measures are described in details in the subsequent sections.

8.12. IMPACTS ON LAND ENVIRONMENT

Impacts on Land use and Aesthetics

Proposed development on the project site includes development of various academic buildings and infrastructure at various levels. Improper management and disposal of solid and hazardous waste may reduce the overall aesthetics of the campus. Following are some of the impacts and mitigation measures of solid waste during construction and operation phase of the project.

A) During Construction phase

(i) Impacts

The average quantity of waste generated from the proposed Central University during construction phase would be inert waste, mainly comprising of clay, sand, gravel, brick, concrete, concrete block, asphalt, pipes, conduits, steel waste etc.

(ii) Mitigation Measures

A major portion of the waste (particularly the wasted construction material) would be used at the project site for internal leveling, internal road construction, boundary wall construction etc. Waste management plan would be prepared suggesting maximizing the reuse of recyclable wastes, safe disposal of non-reusable wastes from the site to reduce the impact to insignificant levels.

Disposal of excess waste generated during construction activity would be properly undertaken. Waste recycling plans would be developed for construction work, prior to beginning construction activity. Handling of waste material requires special precautions such as personal protective equipment and special procedures to prevent the injury. Implementation of safe methods for waste collection, storage and disposal in a manner that protect the health and safety of personnel, minimize environmental impact and promote material recovery and recycling will be ensured.

B) During Operation Phase

Impacts of Waste Generation and their Suitable Management

Improper management of solid waste will lead to poor aesthetics within the campus. It will also promote diseases and degradation of land quality. Hazardous waste if left unmanaged may leach in to the ground or reach to nearby surface water bodies along with the surface runoff during monsoon season. The overall waste expected to be generated from proposed Central University project during operational phase can be identified and categorized as follows:

8.13. TYPE OF WASTE

1. **Solid Waste -** This type of waste shall be generated from Academic buildings, Hostels, Residents from staff quarters, Canteens and different Blocks and also often called Municipal Solid Waste (MSW) as the management of such kind of waste shall be according to amended Municipal Solid Waste Management Rules 2000 framed under Environment (Protection) Act 1986. Further, the generated MSW is sub-divided into following category:-
   - **a-** Bio-degradable waste
   - **b-** Non-Biodegradable or recyclable waste
   - **c-** Inert waste
2. **Construction & Demolition waste-** Waste produced during construction or renovation of building and roads.
3. **Bio-Medical Waste-** Generated from health center, includes infected syringe, discarded medicines and other things.
4. **Hazardous waste**- It includes laboratory discards like chemical, solvents, paint, used lube oil, etc.
5. **E-waste-** From computer scraps or other non-utilizable electronic goods.

8.14. MANAGEMENT ALTERNATIVES

1- **MSW Waste-** Bio-degradable waste can be managed in the campus by adopting Technologies like Composting, Vermin composting and Bio-gas plant. The Municipal Solid waste to be generated at the site will be managed and disposed off as per Municipal Solid Wastes (Management and Handling) rules 2000. Total municipal solid waste estimated to be generated will be approx. 5230 kg/day i.e. 5.7 tons/day.Among these waste, approximately 2.5 tons/day (45 % of total municipal solid waste) will be the Bio-degradable waste asper Central Public Health and Environmental Engineering Organization (CPHEEO) manual.

- Recyclable waste after segregation will be managed by authorized recycler of a facility with suitable agreement for their disposal.
- Inert Waste (remainder waste after biodegradable and recyclable) shall go for sanitary land filling at government approved site.
- Regarding temporary storage of different kind of wastes, bins or containers will be suitably placed at various locations. Recyclable or non-recyclable waste will be kept separated in bins with color coding of 20 Liter capacity. Outside the lab, separate and suitable bin will be kept for collecting Biomedical and hazardous waste. For biomedical waste, separate bin will be proposed. Outside the building, community bins will be kept of a capacity of either 500 L or 1000 L depending on the waste generation.
- Manpower required for the collection of Municipal Solid Waste is 10-15. (Will be hired on 10,000 /Month)
- -Two-wheelers cart will be provided for the purpose of collection of Municipal Solid Waste.Segregation of solid waste will be done in different colored bins viz: green bins for biodegradable waste and blue bins for non-biodegradable waste.

For proposed generation of 2.5 tons/day of bio-degradable waste, following Technologies can be adopted:-

A. **Organic waste converter-** 500 kg of waste can be converted into manure after 15 days of cycle each costing approximately 3.0 Lakhs. By this method, more than 5 waste converters shall be required during full-fledged operation.

B. **iogas plant -**Biogas plant can be implemented for the management of organic waste of 1 tons/day. The Treatment cost will be **4 Lakhs/annum** (As mentioned for Nisarguna Biogas Plant under Solid waste management chapter of India Infrastructure Report 2006.)

2- **Construction and Demolition waste-**This kind of waste will be managed by Project Management Company.

Table 8.5: Constituents of construction waste to be generated at the site

S. No.	Constituents	Percentage Composition
1	Soil, Sand and Gravel	34.99
2	Brick and Masonry	29.95
3	Concrete	24.98
4	Metal	4.97
5	Bitumen	2.04
6	Wood	2.04
7	Other	1.02
	Total	**100**

Source: TIFAC Report "Utilization of Waste from Construction Industry," 2001

3- **Bio-Medical Waste-**This kind of waste shall be managed by authorized Bio-medical waste management operator of a facility and shall be disposed off as per Bio-Medical Waste (Management and Handling) Rules, 1998.Since, this is a Management Institute's Infrastructure Development; the possibility of typical bio medical (laboratory) waste is negligible. Thus, least amount of bio medical waste is expected to be generated only from first aid room and health care centre. The generated bio medical waste to be kept separate and properly labeled from other waste stream in order to avoid contamination and disposed through authorized bio medical waste management operator of a facility through suitable agreement and record shall be maintained in relevant form.

4- **Hazardous waste-**The overall generated hazardous waste will be managed by Hazardous waste management's operator of a facility by undergoing appropriate agreement as per amended Hazardous waste Management, Handling and Transboundary Movement Rules 2008 . The proposed Central university is expected to generate following categories of hazardous wastes:

- Used Oil (Category 5.1, as per Schedule-1 of the Rules) - from DG sets Oil
- Contaminated Wastes (Category 5.2, Schedule-1) - from cleaning of DG sets, maintenance operations etc.

Applicability analysis will be done with regards to "The Hazardous Wastes (Management, Handling and Trans boundary Movement) Rules 2008", to identify specific wastes, to be generated from the proposed central university that shall be categorized as hazardous wastes. The institute would then manage hazardous waste as per the prevailing rules and ensure compliance with the all the conditions on a continual basis.

Hazardous wastes would be stored in secured places with adequate secondary containment and labelling (in Form-8) as per The Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2008.

Appropriate records of hazardous wastes generation and disposal (in Form-3, Form-4, Form-9, Form-13 etc.) shall be maintained as per the requirements of above mentioned HWM's rule.

The used oil and oil-contaminated wastes shall be disposed of through authorized recyclers/re-refiners. Any other hazardous wastes, generated on-site, shall be sold only to authorized contractors. Black colored bins shall be used for the disposal of any hazardous waste to be generated at the proposed site.

Table 8.6: Hazardous waste to be generated from the construction of proposed Central University in Andhra Pradesh

S. No.	Hazardous Waste
Construction phase	
1.	Used Oil from DG Sets
2.	Centering Oil, formwork oil
3.	E-waste- Circuit boards, CRTs, Electronic parts, solder dross, weld waste
4.	Paints, pigments, dyes and primers
5.	Fuels and heating oils and other volatile/ flammable liquids such as coolants, grease etc.
6.	Tar and tar products
7.	Lead containing products
8.	Product packaging (cement bags, cartons, containers, plastic covers etc.
9.	Fluorescent lamps intact and crushed, halogen lamps, arc lamps, UV lamps, high pressure sodium lamps, neon lamps, incandescent lamps.
10.	Mercury containing lamps and tubes, mercury vapor lamps, Mercury containing devices- mercury switches, relays, regulators, thermostats, manometers and debris containing mercury.

5- **E-Waste**- The E-waste disposal would be done with the help of Authorized local Vendor and disposed off as per E-waste (Management and Handling rules), 2011. At the site, proper segregation and storage of the waste would be done. The disposal plan would be developed to follow the environmental norms set by the local regulatory body i.e APPCB. Overall it would be ensured that all waste fractions are appropriately recycled/ disposed of through authorized recyclers. Records would be kept regarding amount and characteristics of all types of wastes. As this is an Institutional Infrastructure Development Project, bulk amount of electronic goods to be used after being fully operational of the proposed project and thus the proposed Central university shall come under category of bulk consumer as per E-waste (Management and Handling rules), 2011. Therefore, it is advisable to procure the electronic goods up to maximum extent from authorized manufactures who have framed extended manufacturer's

responsibility in their policy so that the electronic goods after their end use can be go under buy back to the company from which they originally purchased. Apart from end used bulk electronic goods rest of the scrap shall be sent to E-waste recycling operator of the facility.

6- **Battery waste-** Will be managed by competentoperator of a facility authorized under Batteries (Management and Handling) Rules, 2001.

8.15. IMPACTS ON TOPOGRAPHY AND GEOLOGY

The proposed activity during the construction phase would involve excavation work and leveling of proposed site. Since the proposed University site is a vegetative land, the topography as well as geology is anticipated to change due to proposed project as the tree falling might involve to the site. No additional stresses will be imposed by the project and thus hereby advised that the retain existing trees as extent possible and make them part of landscape development and thus by doing this the cost of landscaping can be minimized and also maximum number of trees remain survive and further act as purifier for ambient air. After development of university, the land use changed and a positive impact is envisaged as the vicinity as well as for whole nation, an asset of prime importance would be established to deliver top quality management education. There will be no diversion of natural drainage. So, there will be no negative impact on natural drainage system is envisaged.

A) During Construction Phase

(i) Impacts

Impact on soil due to the project construction activity, includes soil erosion, compaction, physical and chemical desegregations of soil. Construction and associated activities

would expedite erosion if not managed properly. Other factors contributing to soil erosion, is increased runoff and decrease in permeability of the soil.

Use of heavy machinery and storage of material compact the soil. Compaction of soil as well as mixing of construction material with soil would also lead to reduced infiltration of water, decrease in permeability and increased runoff. Both physical and chemical desegregations of soil would occur during the construction phase. Physical de-segregations would occur due to excavation of different layers of soil and subsequent mixing of different layers and would lead to disruption of soil structure. Chemical desegregations and pollution of soil would be on account of spillage of oil from vehicles used for transportation of construction material and from the building material used for construction purposes.

(ii) Mitigation Measures

The soil of the project site is a sandy loam soil. The top soil is rich in organic content and loose in structure. However, environmental management measures will be implemented to reduce further degradation of soil, minimize erosion and construction of silt traps etc. Hence no significant impact is expected on this parameter. The excavated top soil can be temporary stored onsite and reused for landscape development.

B) Operation Phase

(i) Impacts

No significant impact is expected on the soil in and around the site. However for possible impacts due to waste and waste water generation, the following Mitigation measures would be taken.

(ii) Mitigation Measures

During the operation phase, carefully designed landscaped areas and plantation will be maintained and developed as per guidelines for developing green belts by CPCB. No significant impact is expected on the soil in and around the site. Wastewater will be treated, disinfected and reused for various horticulture/green belt and other activities like flushing, air conditioning etc.

Storm water will be used to recharge the aquifer after filtration of silt and sand and can also be utilized for project water requirements.

Secondary containment will be provided in fuel, oil and other material storage areas.

8.16. IMPACTS ON AIR ENVIRONMENT

A) During Construction Phase

(i) Impacts

The Construction phase would have the following types of impacts on the air environment:

- Fugitive Dust Emission
- Gaseous Emission

Sources of Fugitive Dust Emission, is due to movement of vehicle and land preparation activities, loading and un-loading of construction materials. The building material carrying vehicles as well as the construction machinery generate emissions and pollute the environment. Dusts include brick and silica dusts, wood dust from joinery and other

woodworking and from earthmoving and other vehicle movements within the site. Construction machineries pose a special threat to air quality.

Source of Gaseous emission during construction phase would be temporary Diesel Generator sets installed at the project site.

The building material carrying vehicles as well as the construction machinery generate emissions and pollute the environment. Dusts include brick and silica dusts, wood dust from joinery and other woodworking and from earthmoving and other vehicle movements within the site. Construction machineries pose a special threat to air quality.

(ii) Mitigation Measures

Dust Suppression

The most cost-effective dust suppressant applied to mitigate airborne dust is water, because of its efficiency as well as ready availability around the project site. Water can be applied using handheld sprays and automatic sprinkler systems depending on the location. Thus, Fugitive dust will be controlled by sprinkling of water at the site.

Apart from water covering sheet will be used to prevent dust dispersion at buildings and infrastructure sites, which are being constructed.

Material storages / warehouses – Care would be taken to keep all material storages adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust / particulate emissions. Fabrics and plastics for covering piles of soils and debris is an effective means to reduce fugitive dust.

Paving is a more permanent solution to dust control, suitable for longer duration projects. High cost is the major drawback to paving.

Stacks for D.G. Sets

Adequate stack height of DG sets would also be maintained as per the CPCB norms. During the installation of heights of DG Sets the conditions specified in The Environment Protection Act, 1986 third amendment rules 2002, vide GSR 489 (E), dated 9th July, 2002 at serial no. 96 shall be complied. All D.G. sets will run on High Speed Diesel (HSD), which has ultra-low sulphurcontent. This will ensure minimum emission of sulphur from the D.G set

Emission Control for Construction Equipment and Vehicles

Construction equipment and heavy transport vehicles shall meet emission standards like Bharat Stage –Stage-IV requirements for vehicles. The operation and maintenance of all vehicles, equipment's deployed on site by different contractors would be regulated and effectively monitored.

Reducing the speed of a vehicle to 20 kmph can reduce emissions by a large extent. Speed bumps would commonly be used to ensure speed reduction.

Improved Maintenance

Recognizing that significant emission reductions can be achieved through regular equipment and vehicle maintenance, all site contractors will be asked to take necessary steps for proper maintenance of vehicle and equipment's. The Pollution under Control (PUC) certification will be ensured for proper O&M of vehicles. On-Road- Inspection should be done for black smoke generating machinery.

B) During Operation Phase

(i) Impacts

During the operational phase, the Diesel Generator sets to be operated for back-up power supply are the major source of air pollution.

(ii) Mitigation Measures

The point source of gaseous pollutants would be emissions from the DG sets; this is controlled by maintaining proper stack height. Hence, there would not be any significant increase in the concentration of PM_{10}, $PM_{2.5}$, SO_2, NO_2& CO.

During the installation of heights of DG sets the conditions specified in The Environment Protection Act, 1986 third amendment rules 2002 vide GSR 489 (E), dated 9th July, 2002 at serial no. 96 shall be complied.The Pollution under Control (PUC) certification will be ensured for the vehicles coming on the site at regular basis.

Six monthly monitoring of D.G. stack will be done to keep a check on emissions. A port hole in the D.G. stack shall be provided to collect emission samples. The port hole shall be located at a height of either 8*d from the bottom of the stack or 2*d from the top of the stack. Where 'd' is the diameter of the stack.

8.17. IMPACTS ON NOISE ENVIRONMENT

A) During Construction Phase

(i) Impacts

During the construction phase of the site, the main source of noise pollution would be Construction equipment, transportation activities, operation of DG sets and impact of noise due to work at night.

(ii) Mitigation Measures

Restriction of Time of Construction:

The heavy construction and transport activities shall be restricted to daytime operation when the background noise levels are high so that impacts like sleep disturbance during the night time are avoided.

Provision of Noise Barrier (in accordance with National Building Code 2005) all around the construction activity area on the site periphery, about 2.5 meter high barrier (temporary) shall restrict the noise impact from the ground level construction activity by about 10 dB(A).

Proper Maintenance of Construction Equipment/Vehicles

Proper operation and maintenance of heavy equipment as well as transport vehicles shall also ensure lower noise emissions.

Occupational & Passive Protection:

Ear plugs, ear muffs, etc. provided to workers handling high noise equipment or stone cutting operations shall protect them from high noise exposure.

B) During Operation Phase

During operational phase the following sources of noise pollution is expected:

Diesel generator operations

Increase in transport noise from within the site & from nearby roads.

Mitigation Measures during Operation Phase

During operational phase of the project, the major source of noise would be of DG sets of traffic activity in and around the project site.

Even among these sources, the most important noise source shall be the DG sets. The impact of the traffic activity on the noise and vibrations will not be significant as the number of vehicle movement due to the project is negligible in comparison to the existing vehicular movement on the road.

Provision of Enclosures for DG Sets

As regards DG sets, these shall be provided with acoustic chambers ensuring maximum outside noise level of 70-75 dB (A) at 1.0 m distance. The noise level of DG sets will be maximum 70 dB (A) (at 1.0 m distance) as per the prescribed compliance standards of the MoEF&CC. The resultant outside noise level expected from diesel generator sources in simultaneous operation but housed in a efficient acoustic enclosure shall not exceed 75 dB (A).

Even if the DG sets are housed separately, the total resultant maximum sound pressure level of the DG sets operating together would not be more than 76 dB (A) by the addition of sound intensities, based on equation used for calculating cumulative noise.

$Leq,T = 10 \log\{1/n \; n\sum i=110 \; Li/10\}$

Where, Li = levels observed at n equally spaced sources during interval T.

It is pertinent to mention here that DG sets will be used as power back up units and it is anticipated that they shall operate only during power failure day. However, as they will be acoustically enclosed, no impacts are expected on the outside community. The acoustic enclosure would reduce outside noise levels to less than 70 dB (A). It is further

desirable to increase the acoustic efficiency of enclosure to reduce the noise levels to less than 60-65 dB (A).

Provision of adequate structural foundation to minimize vibration

Another type of likely impact is due to vibration of the DG sets on the buildings and the working structures. As far as impacts of vibrations are concerned, there would be adequate structural treatment provided to the foundation of the DG sets (as part of the building design). The DG sets foundation will be made up of heavy weight inertia concrete block. The generator will be mounted on Cushy Foot mounting and the concrete block will be isolated from the adjoining floor. Thus no vibration impacts are expected from the DG sets.

Setting up the barriers

National Building Code 2005 suggests that design solutions such as barrier blocks should be used to reduce external LA 10 noise levels to at least 60-70 dB (A) at any point 1.0 m from any inward looking façade. Green belts and landscaping could act as an effective means to control noise pollution.

Control of noise from road traffic

Two rows of Trees with heavy foliage planted on both sides of carriage way help slightly muffle the noise provided the foliage extends for a considerable distance of 30m or above.

Green Belt Development

Vegetation buffers can minimize the level of increase in Noise level of the area. Greenbelt shall be developed comprising of trees as per the guidelines issued by CPCB.

8.18. RECOMMENDED PLANT SPECIESFOR GREEN BELT DEVELOPMENT

The **Tree Species** recommended as per CPCB guidelines for developing greenbelt are given in following table.

Table 8.7: Recommended Tree Species for Green Belt Development as per CPCB

S. No	Binomial Name	Common Name	Sensitive/ Tolerant	Height	Flowering season	Crown Shape	Crown surface area (m^2)
1	*Acacia ferruginea*	SafedKhair	T	3-5m	Jan-Feb		
2	*Acacia mearnsii* de	Black wattle	T	20m		Spreading	
3	*Acacia nilotica*	Indian Gum-Arabic-tree	T	8m	Aug-JAN.	Spreading	8293.74
4	*AlbiziaMoluccana*	White popinae	T	15m	July - Oct.	Oblong	
5	*AlbiziaOdoratissim*	Black Siris	T	18m	April - June	Oblong	
6	*Alstoniascholaris*		T	15m	Dec - Mar.	Round	241,680.50
7	*Anonaswuamosa*	Custard apple	T	10m	March - September	Round	2178.21
8	*Anonareticulata*	Bullock's Heart	T	10m	June.	Round	2017.44
9	*Azadirachtaindica*	Indian Lilac	T	20m	Jan-March Aug -Sept.	Spreading	300,445.30
10	*Balanitesroxburghiji*	Desert-date	T	9m	April-June	Spreading	
11	*Barringtoniaacutangula*	Indian Oak	T	9-12m	March-May Sept- Oct	Spreading	
12	*Barringtoniaracemosa*	Ijjut	T	6-8m	Perrennial		
13	*Buchananialanzan*	Almondette Tree	T	13m	Jan-Mar	Round	
14	*Cassia pumila*	Yellow cassia	T	10-12m		Round	13,273.70
15	*Cassia siamea*	Iron wood	T	10-12m	Aug-May	Oblong	3,927.36

S. No	Binomial Name	Common Name	Sensitive/ Tolerant	Height	Flowering season	Crown Shape	Crown surface area (m^2)
		tree					
16	*Casuarinaequisetifolia*	Whistling pine	T	10m	Feb-April, Sept-Oct	Oblong	
17	*Citrus aurantium*		T	5m	Sept - Nov	Round/ Oblong	494.9
18	*Cordiadichotoma*	Sebestan fruit tree	T	10m	March-April	Round/ Oblong	
19	*Dalbergiasisoo*	Sisoo	T	10m	March - June	Round	5848.5
20	*Derris indica*	Pongam-Oil Tree	T	10m	April-June	Round	6278.1
21	*Durantarepens*		T	3m	Perrennial	Spreading	60.47
22	*Eucalyptus citriodora*	Lemon scented gum	T	20m	Feb-April, Oct-Dec	Conical	52447.63
23	*Eucalyptus hybrid*	Mysore gum	T	20m	Feb. - April, Oct.- Dec.	Conical	50047.33
24	*Ficusbenghalensis*	Banyan Tree	T	20m	April - June	Spreading	236,493.67
25	*Ficusbenjamina*		T	12m	Sept - Nov	Spreading	87326.12
26	*Ficuselastica*	Indian Rubber Tree	T	12m		Spreading/ Round	6028.18
27	*Ficusgibbosa*	Udumbber	T	10m	April-May	Spreading	22345.4
28	*Ficushispida*	Kala Umbar	T	10m	April-July	Spreading	46942.02
29	*Ficusreligiosa*	Peepal Tree	T	20m	Jan. - May.	Round/ Oblong	1,44,868.7
30	*Ficusvirens*	Pilkhan	T	10m	Jan. - May.	Oblong	1,97,838.2
31	*Gardenia tasminoides*		T	5m	April-Sept	Oblong	265.87
32	*Grevillearobusta*	Silver Oak	T	20m	Feb-April	Oblong	
33	*Guazmaulmifolia*		T	10m	Mar - August.	Round/ Spreading	30279.8
34	*Heterophragmaroxburghiji*		T	18m	Feb. - April.	Round/Oblong	155217.7
35	*Hibiscucrosa-sinensis*	Jasud	T	3m	Perennial	Round /Oblong	61.47

S. No	Binomial Name	Common Name	Sensitive/ Tolerant	Height	Flowering season	Crown Shape	Crown surface area (m^2)
36	*Lxoraarborea*		T	6m	Perennial	Oblong to spreading	57.04
37	*Lxoracoccinea*		T	6m	Perennial	Oblong	183.26
38	*Ixorarosea*		T	6m	Perennial	Oblong	296.03
39	*Kigeliaafricana*	Sausage tree	T	10m	Mar.- June	Round/Oblong	58432.21
40	*Lagerstroemia speciosa*	Queen crape Myrte	T	10m	April - June.	Oblong	72569.31
41	*Mammeasuria a*	Nagkesar	T	18m	Feb-Mar	Spreading	27865.1
42	*Managiferaindica*	The mango tree	S	15m	Jan -Mar	Round / Oblong	69,004.67
43	*Melaleucaleucadendron*	Cajaput Tree	T		Sept-Nov	Oblong	21,435.38
44	*Millingtoniahortensis*	Indian cork-tree, Buch	S	10m	Oct.- Dec.	Oblong / Round	22439.17
45	*Mimusopselengi*	Bakuli	T	10m	Jan.- Mar.	Oblong / Round	13,385.20
46	*Mimusopshexandra*		T	10m	Sept - Nov	Oblong / Round	4063.1
47	*Morus alba*	Tuti	S	8m	Feb.- June	Oblong	1047.62
48	*Peltophorumpterocarpum*	Copper pod tree.	T		May - Sept.	Oblong / Round	231045.3
49	*Pithecellobiumducle*	Manila tamarind,Madras thorn	T	8m	Jan. - Feb.	Oblong	2564.75
50	*Prosopis cineraria*		T	12m	Dec. - April.	Spreading	13430.6
51	*Prosopistamarugo*		T	13m	Dec. - April.	Spreading	
52	*Psidiumguayava*	Guava Tree	T	5m		Oblong	
53	*Samaneasaman*Jacq	Rain Tree	T	20m	Mar. - June.	Spreading /Round	99306.2
54	*Saracaasoka*		T	5m	Dec. - May	Spreading	2295.2
55	*Sesbaniagrandiflora*	Swamp- pea, Agathi	T	10m	Sept. - Dec.	Oblong	4694.87
56	*Sesbaniasesb*	Common	T	6m	Aug -Dec	Oblong	4563.7

S. No	Binomial Name	Common Name	Sensitive/ Tolerant	Height	Flowering season	Crown Shape	Crown surface area (m^2)
	an	Sesban					
57	*Spathodea campanula*	Indian Tulip tree	T	12m	Nov-Jan	Oblong/ Round	73250.17
58	*Spondiaspinnata*		T	10m	Feb - April	Round	25587.31
59	*Synacarpiaglomulifera*	Turpentine tree	T	20m		Oblong/ Round	
60	*Syzygiumcumini*	Black plum	T	20m	Mar. - May.	Oblong/ Spreading	112143.2
61	*Tamarindusindica*	The Tamarind Tree	T	20m	April - Oct.	Spreading	276839.5
62	*Thespesiapopuleneoides*	Umbrella Tree	T	10m	Perennial	Round	34635.32
63	*Thujaoccidentalis*	American Arborvitae	T	15m	Conical		
64	*Termaorientalis*	Charcoal Tree, Indian nettle tree	T	6m	Perennial	Round/ Oblong	425,734.10
65	*Zizyphusmauritiana*	Indian Jujube	T	10m	April - Oct.	Round	2638.17

Table 8.8: Shrubs species proposed for Green Belt development

S. No	Binomial Name	Common Name	Sensitive/ Tolerant	Height	Flowering season	Crown Shape	Crown surface area (m^2)
1	*Acacia catechu*	The cutch tree	T	3m	May-August	Oblong	108.42
2	*Acacia pennata*		T	8m	June-Aug.	Round	
3	*Bougainvillea spectabilis*	Bougainvillea	T	8m	Perennial	Oblong/Round	939.25
4	*Calotropisgigantea*	Gigantic swallow wort	T	5m	Feb-July	Oblong/ Round	47.50
5	*Calotropisprocera*	Swallow wort	T	6m	December	Oblong/ Round	87.70
6	*Carissa spinarum*		T	3m	Mar-May	Round	
7	*Clerodendruminerme*	Banjai	T	5m	Nov-Jan	Round	723.43
8	*Clerodendruminfortunatum*	Bhant	T	3-4m	Oct-Jan	Round	854
9	*Grewiasubinequalis*	Phalsa	T	7m	Apr-June	Round	
10	*Hamelia patens*	Scarlet bush	T	3m	Oct- Jan	Round	824.06
11	*Juniperuscommunis*	Common juniper	S	10m	March - April	Round / Oblong	
12	*Lawsoniainermis*	Henna	T	5m	April -July	Round	71.85
13	*Murrayapanic ulata*		T	5m	June - Oct.	Round	1354.61
14	*Neriumindicum*	Pink oleander	T	5m	Perennial	Oblong / Round	5747.63
15	*Poinciana pulcherrima*	Krishna chura	T	3m	Oct-Jan	Oblong	8034.67
16	*Ricinuscommunis*	The castor	T	6m	Sept - Oct	Oblong	942.56
17	*Sesbaniaspeciosa*	Tam-Seemaiagathi	T	4m	Sept. - Dec.	Oblong	
18	*Tabernaemonatanadivaricata*		T	3m	Perennial	Round	128.67
19	*Tecomastans*		T	5m	Feb -April	Oblong	61.23

S. No	Binomial Name	Common Name	Sensitive/ Tolerant	Height	Flowering season	Crown Shape	Crown surface area (m^2)
20	*Thevetiaperuviana*	Yellow oleanner	T	6m		Round/ Oblong	21775.22
21	*Zizyphusoenoplia*	Jackal jujube	T	5m	April-June	Round	
22	*Zizyphusrugosa*		T	5m	Dec. - Feb.	Round	
23	*Zizyphusxylopyra*		T	4m	April - June	Round	

Source: Guidelines for Developing Greenbelts, CPCB- 2008.

8.19. IMPACTS ON WATER ENVIRONMENT

A) During Construction Phase

(i) Impacts

During Construction Phase, the impact on water environment is in two ways:
Use of water

Release of waste water

Construction activities for the proposed project can have non-significant impact on the water environment. Potential impacts on the surface and ground water quality have been discussed as under:

Water uses for Site Development and Construction:

Wastewater generation during site development and construction mainly includes the storm water run-off (from the construction areas, stockpiles of construction

materials and wastes, etc. mainly containing high suspended solids, in case these activities are undertaken during rainy season.

Wastewater generation from Site workshop:

The repair and maintenance of construction equipment/ transport vehicles, DG Sets, and washing of vehicles on-site may also generate wastewater containing oil and grease (though only in minimal quantities as normally these activities are not undertaken on-site) Slurry generation from Batching Plant at construction site.

Toilets and Washing area:

Domestic wastewater is generated from the temporary toilets, washing areas, drinking water points, etc. constructed for the construction workers and other staff on-site.

Mitigation Measures

Substantial quantities of water would be used in the construction activities and to meet the domestic requirement of the construction personnel. Stagnant pools of water may promote breeding of mosquitoes and generally create unsanitary conditions. However, suitable drainage network can be made to ensure proper drainage of wastewater from the construction sites, so that such water do not form stagnant pools nor aggravate soil erosion. With regard to water quality, wastewater from construction activities would mostly contain suspended impurities

Under Best construction practices, construction wastewater shall be collected in construction pits and reused in construction activities e.g. wastewater from stone

cutting, cleaning, curing, etc. Thus, no significant impacts are expected on water quality in the project area due to generation of this wastewater.

The impact of the surface runoff (from the stockpiles, construction areas, etc.) is not expected to be significant except during the rainy season. To mitigate any impacts, garland drains and soak pits (for collection and reduction in the runoff) would be constructed around the stockpiles of materials and wastes (till they are used/ moved off-site). It would be ensured that construction materials and wastes stockpiles are moved on a periodic basis to prevent any stockpiles.

Regarding the construction workers, since the project site is located in a rural area, preference would be given to employment of local construction workers. The magnitude of construction is large and thus there would be a need for a 24X7 availability of human resources. Thus there is a need to provide facility for the stay of workers onsite. This will increase the consumption of domestic water and also generation of waste water during construction phase.

A labour camp can be set up either at the project site or at a suitable location from where the project site is easily accessible. The best possible site for labour camp will be a site near by the project site where a water supply connection is already available. In case of unavailability of such site water for use of domestic purposes can be supplied by water tankers.

For the treatment of waste water generated during the construction phase a modular STP of adequate capacity can be installed at the site.

B) During Operation Phase

(i) Impacts

During this phase, two basic activities related to impacts on water environment are:

a. Procurement of water.

During operation phase, water would be drawn from ground water. Thought the ground water quality at the site is suitable for domestic uses, but it is advisable to test the extracted water for traces of organic elements, fluoride and nitrate.

b. Release of wastewater

While developing the water system for the project, utmost care would be taken to maximize the recycle/ reuse of sewage and minimize wastewater quantity. The institute shall aim at zero discharge of waste water.

(ii) Mitigation Measures

The ground water at the site come under Safe Zone and permission regarding abstraction can be obtained from Regional Director, CGWA. As it is proposed to extract ground water at the site for use of domestic purposes following shall be ensured,

1. Permission from Central Ground Water Authority.
2. Ground Water is checked for presence of any contamination.

3. Rain water Harvesting is employed at the site for replenishing the ground water.

Rain Water Harvesting

Rainwater harvesting is the activity of direct collection of rain water. Rain water collected can be stored for direct use or can be re-charged into the ground water. The main aim of Rain Water Harvesting it to minimize flow of rain water through drain/nallah to the river without any use. Rain Water Harvesting aims for optimum utilization of rain water. For rain water conservation point of view, it is essential to use rainwater for recharging the ground water. As per the recommendations of CGWB roof top rainwater harvesting shall be done.As the whole **Anantapur**district is suitable for abstraction of Ground Water and come under safe zone so the recharging in open areas shall be as per direction of CGWB and as from their data, at most of the places, the water level during post monsoon season is 2-5 meter below ground water level and if the ground water level is less than 8 meter below ground level, then Rain water harvesting is technically not advisable. However, the site is safe from any water logging situation.

Waste Water Treatment

Waste water would be generated as sewage from the proposed project site. A large number of pollutants occur in waste water, which includes suspended and dissolved solids consisting of inorganic and organic matter, nutrients, oil and grease and pathogenic micro-organisms. Considerable impact from wastewater would occur if it were not properly treated before disposal or reuse. Hence, proper arrangement of disposal of wastewater would be made.

While developing the water system for the project, utmost care would be taken to maximize the recycle/reuse of sewage and minimize waste water quantity. Sewage would be generated which would be treated in the STP.

Proposed Waste Water Treatment Scheme

Waste water to be generated from the proposed university would be treated in the Sewage Treatment Plant (STP). The technology for treatment will be based on the quality of inlet water. As this is an institutional building the waste water will be from domestic sources such as kitchen, bathrooms etc. The best possible technology that can be employed shall be **MBR.**However, following techniques can also be considered for comparison.

1. Fluidized Aerobic Bioreactor (FAB)
2. Submerged Aerated Filters (SAF)
3. Fluidized Media Reactor (FMR)

A water treatment plant for use of surface water for drinking purposes can also be installed at the site.

8.20. IMPACTS ON SOCIO-ECONOMIC ENVIRONMENT

(i) Impacts

The aim of this institute is to give best possible education to the population of India. Thus there will be a positive impact on the higher education of the all sections of society. The proposed CENTRAL UNIVERSITY will enhance the higher education rate of the district as well as whole India and will increase possibility of direct and indirect employment opportunity. Local people in the vicinity of the project may also be involved during construction stage of the project. During operation phase people may be involved as per their qualification and skill related to the activities. Thus, there would be positive impact on the socio-economic condition because of this project.

Mitigation Measures

As the impacts are insignificant, no specific mitigation measures are envisaged for demography and socio-economic environment. During the construction phase, temporary hutments will be constructed at the earmarked space for the labour force. The labour colony shall be provided drinking water and sanitation facilities. Temporary toilets as per PHED norms will be constructed for the work force during construction period. Suitable septic tanks and soak pits of appropriate capacities will be constructed for treatment of sewage before disposal.

Health and safety of the workers will be ensured during construction by making effective provisions for the basic facilities of sanitation, drinking water, safety of equipment or machinery etc. The following recommendations will be followed:

Safety procedures, norms and guidelines (as applicable) as outlined in the document Part -7, Constructional practices and safety, 2005, National Building Code of India, Bureau of Indian Standards will be complied with.

Clean drinking will be provided to all the workers. Adequate number of decentralized latrines and urinals will be provided to construction workers. All parts of dangerous machinery will be guarded. Hoists and lifts, lifting machines, chains, ropes and other lifting tackles will be kept in good condition. Protective equipment like helmets etc. will be provided to the workers. Fire extinguishers and buckets of sands will be provided in the fire-prone areas and elsewhere as measures to prevent fires.

Table: 8.9 Environmental Impact Matrix of the proposed project activity

S No	Parameter	Negative Impact	No Impact	Positive Impact	Short Term Impact	Long Term Impact
A. Impact On Land Environment						
i.	Change of Land use pattern			*		
ii.	Impact on Soil Quality	*			*	
iii.	Soil Erosion	*			*	
B. Impact on Water Environment						
i.	Change in Natural drainage pattern	*				
ii.	Pollution at construction site	*				
iii.	Impact on water quality		*			
iv.	Increased water Demands	*				
C. Impact On Air Environment						
i.	During Construction	*			*	
ii.	During Operation	*			*	
D. Impact on Noise Environment						
i.	During Construction	*			*	
ii.	During Operation	*			*	
E. Impact on Biological Environment						
i.	Impact on Migratory Birds	*			*	
ii.	Loss of trees			*		*
Iv.	Impact on Wetland					
F. Impact on Socio Economic Environment						
i.	Employment Opportunity			*		*
ii.	Education			*		*

Chapter 9

FINANCIAL PLAN FOR SETTING UP THE PROPOSED CENTRAL UNIVERSITY IN ANDHRA PRADESH

9.1 FINANCIAL REQUIREMENT

The financial estimates have been categorized under three different broader categories namely:-

a) Transit Campus Cost

b) Capital Cost &

c) Recurring cost

9.2 TOTAL PROJECT COST

The total project cost for **7 financial years** has been worked out by consolidating the cost of all the two broader Categories mentioned above. Total Project cost as well as Category/ year wise break-up has been shown below in Table 9.1 (a) and 9.1 (b) respectively. Service Tax is not included in total project cost.

TOTAL PROJECT COST FOR CENTRAL UNIVERSITY, ANDHRA PRADESH IS Rs. **902.07 CRORE**

Table 9.1 (a):Project Cost Estimations (Rs in crores)

S.No.	Particulars	Total Amount (Rs. In Crores)
1	**Transit Campus Cost**	**48.26**
2	**Capital Cost for Main Campus**	**711.38**
3	**Recurring Cost for New Campus**	**142.42**
	Total	**902.07**

Table 9.1 (b): Project Cost Estimations Year wise Plan (Rs in crores)

	Particulars	TOTAL	F.Y. 2017-18	F.Y. 2018-19	F.Y. 2019-20	F.Y. 2020-21	F.Y. 2021-22	F.Y. 2022-23	F.Y. 2023-24
1	TRANSIT CAMPUS COST	48.26	10.37	20.13	17.76	-	-	-	-
2	CAPITAL C OST OF MAIN CAMPUS								
	Cost of Building (A)	535.57	140.08	157.28	125.44	76.89	35.88	-	-
	Cost of Equipment & Furniture (B)	87.49	-	8.75	26.25	17.50	17.50	17.50	-
	Capital Cost (C=A+B)	623.06	140.08	166.03	151.69	94.39	53.38	17.50	-
	ADD:								
	CONTINGENCY @ 3% (OF 'C' ABOVE)	18.69	4.20	4.98	4.55	2.83	1.60	0.52	-
	PMC OR ANY OTHER CONSULATANCY @6% (OF ' A' above, assumes as inclusive of ST@15%)	32.13	8.40	9.44	7.53	4.61	2.15	-	-
	Service Tax @ 6% (of A above)	32.13	8.40	9.44	7.53	4.61	2.15	-	-
	LABOUR CESS @ 1% (of ' A' above)	5.36	1.40	1.57	1.25	0.77	0.36	-	-
	Sub- Total of Charges (D)	88.32	22.41	25.43	20.86	12.83	6.27	0.52	-
	Total Capital Cost of New Campus (2= C+D)	**711.38**	**162.50**	**191.46**	**172.54**	**107.21**	**59.64**	**18.02**	**-**
3	RECURRING EXPENDITURE OF NEW CAMPUS	142.42	-	-	-	17.73	28.95	41.25	54.49
	GRAND TOTAL (1+2+3+4)	**902.07**	**172.87**	**211.59**	**190.30**	**124.95**	**88.59**	**59.27**	**54.49**

9.3. TRANSIT CAMPUS COST

For initial 3 years, the Academic sessions will take place in a transit campus. The cost estimate for transit campus is given below in Table 9.2.

Table 9.2: Cost for Transit Campus (Rs in crores)

				Rs. in crore
Particulars	**Total**	**YEARS**		
		F.Y. 17-18	**F.Y. 18-19**	**F.Y. 19-20**
Recurring Cost :-				
Employees Remuneration	8.98	2.14	2.66	4.18
Other Benefit to Employees	0.90	0.21	0.27	0.42
7th PC Provision	2.30	0.55	0.68	1.07
Rent & Maintenance Expenses	4.25	1.05	1.23	1.97
Electricity Expenses	2.15	0.30	0.58	1.27
Generator Running & Maint. Exp.	0.09	0.01	0.03	0.06
General Admn. Expenses	2.63	0.33	0.71	1.59
Hostel Expenses	0.13	0.02	0.03	0.08
Outsourced Resources	-	-	-	-
House Keeping	0.16	0.02	0.04	0.10
Security Charges	0.45	0.06	0.12	0.27
Total Recurring Cost (A)	**22.04**	**4.70**	**6.34**	**11.00**
Capital Cost:-				
Equipment Cost	13.97	3.08	7.56	3.34
Furnishing Cost	8.16	1.80	4.41	1.95
Amenities and Setup Expenses	2.28	0.50	1.23	0.54
Shifting Cost of Transit Campus	0.41	-	-	0.41
Total Capital Cost (B)	**24.82**	**5.37**	**13.20**	**6.25**
Total Cost (A+B)	**46.86**	**10.07**	**19.55**	**17.24**
Add: Contingencies @3%	1.41	0.30	0.59	0.52
Total Transit Campus Cost	**48.26**	**10.37**	**20.13**	**17.76**

9.4. CAPITAL COST ESTIMATE OF CENTRAL UNIVERSITY

As per architectural estimations, the total space requirement for construction of Central University-Andhra Pradesh, will be approximate 95232 sq. m.

On the basis of the cost estimates towards Building and Civil Works as provided by the Architect, the total requirement of Furniture, equipment's and teaching aids etc., the Capital Expenditure of new Campus has been categorized in Two major categories namely: -

a) Capital Expenditure on Building and Civil- works including Land development, Allied development provisions and Infrastructure development.
b) Cost towards procurement/ Installation of Lab- Equipment's, Office Equipment's, Teaching- Aids/ equipment's and Furnishing Cost etc.

The cost towards procurement/ Installation of Lab- equipment's, Office Equipment's, Teaching- Aids/ equipment's and Furnishing Cost etc has been arrived at on average basis without considering any specific make of the equipment/ Item. However, in case numbers of items are more but unit cost is less, then cost of the equipment's has been calculated on lump sum basis for fair estimation.

The Total estimated capital expenditure has been worked out to be **Rs. 711.38 crore** and it is proposed that the Construction Phase will be over by the end of the Fifth Year. The Detailed break-up of estimated expenditure has been shown below in Table 9.3.

Total Estimated Capital Cost is Rs. 711.38 crore.

Table 9.3: Capital Cost Estimations of Campus (Rs in crores)

S.No.	Name of Building	Total Covered Area in sq mtrs	Rate per sq mtr	Total (in Rs. Crore)	CPWD cost index	Total cost (in Rs. Crore)	F.Y. 17-18 (in Rs. Crore)	F.Y. 18-19 (in Rs. Crore)	F.Y. 19-20 (in Rs. Crore)	F.Y. 20-21 (in Rs. Crore)	F.Y. 21-22 (in Rs. Crore)	F.Y. 22-23 (in Rs. Crore)	F.Y. 23-24 (in Rs. Crore)
	Academic Complex												
1	School of Arts, Humanities and Social Sciences	7,262	33,947	24.65	1.09	26.87	5.37	13.44	8.06	0.00	0.00	0.00	0.00
2	School of Interdisciplinary and Applied Sciences	2,562	34,200	8.76	1.09	9.55	1.91	4.78	2.87	0.00	0.00	0.00	0.00
4	School of Languages	6,014	34,073	20.49	1.09	22.33	4.47	11.17	6.70	0.00	0.00	0.00	0.00
5	School of Vocational Studies and skill development	2,235	34,326	7.67	1.09	8.36	1.67	4.18	2.51	0.00	0.00	0.00	0.00
6	School of Commerce and Management	3,719	33,933	12.62	1.09	13.75	2.75	6.88	4.13	0.00	0.00	0.00	0.00
8	Central Administrative Building	6,000	35,229	21.14	1.09	23.04	4.61	11.52	6.91	0.00	0.00	0.00	0.00
9	Central Library	4,000	36,387	14.55	1.09	15.86	1.59	4.76	6.35	3.17	0.00	0.00	0.00
10	Computer Centre	1,200	35,520	4.26	1.09	4.65	0.93	2.32	1.39	0.00	0.00	0.00	0.00
11	Conference complex/ Auditorium	3,700	36,135	13.37	1.09	14.57	0.00	4.37	5.83	4.37	0.00	0.00	0.00
	Residential Complex												
12	Guest house	1,840	25,871	4.76	1.09	5.19	0.00	1.56	1.56	1.56	0.52	0.00	0.00
13	Health Center and Other Amenities	1,500	37,717	5.66	1.09	6.17	0.00	0.00	3.08	3.08	0.00	0.00	0.00
14	Student Hostels and Apartments (including warden & staff residences)	40,000	24,523	98.09	1.09	106.92	21.38	32.08	21.38	21.38	10.69	0.00	0.00
15	Faculty Housing	11,200	23,601	26.43	1.09	28.81	5.76	5.76	5.76	5.76	5.76	0.00	0.00
16	Community Centre/commercial facilities for staff	1,500	34,808	5.22	1.09	5.69	1.14	2.28	1.71	0.57	0.00	0.00	0.00
17	Student Activity Centre /Cafeteria/Shopping/Canteen	2,500	34,567	8.64	1.09	9.42	0.00	2.83	2.83	2.83	0.94	0.00	0.00
18	Development of Site					162.00	81.00	32.40	32.40	16.20	0.00	0.00	0.00
19	Allied Provision					59.88	0.00	11.98	11.98	17.96	17.96	0.00	0.00
20	Site Specific Infrastructure					12.50	7.50	5.00	0.00	0.00	0.00	0.00	0.00

S.No.	Name of Building	Total Covered Area in sq mtrs	Rate per sq mtr	Total (in Rs. Crore)	CPWD cost index	Total cost (in Rs. Crore)	F.Y. 17-18 (in Rs. Crore)	F.Y. 18-19 (in Rs. Crore)	F.Y. 19-20 (in Rs. Crore)	F.Y. 20-21 (in Rs. Crore)	F.Y. 21-22 (in Rs. Crore)	F.Y. 22-23 (in Rs. Crore)	F.Y. 23-24 (in Rs. Crore)
	Cost of Building (A)					**535.57**	**140.08**	**157.28**	**125.44**	**76.89**	**35.88**	**0.00**	**0.00**
23	Furniture/Equipment Cost (B)					87.49	0.00	8.75	26.25	17.50	17.50	17.50	0.00
	Capital Cost (C=A+B)					**623.06**	**140.08**	**166.03**	**151.69**	**94.39**	**53.38**	**17.50**	**0.00**
24	Contingency @3% (of C above)					18.69	4.20	4.98	4.55	2.83	1.60	0.52	0.00
25	PMC @ 6% (of A above , assumed as inclusive of ST@15%)					32.13	8.40	9.44	7.53	4.61	2.15	0.00	0.00
26	Service Tax @ 6% (of A above)					32.13	8.40	9.44	7.53	4.61	2.15	0.00	0.00
27	LABOUR CESS @ 1% (OF ' A' ABOVE)					5.36	1.40	1.57	1.25	0.77	0.36	0.00	0.00
	Total Taxes - D					**88.32**	**22.41**	**25.43**	**20.86**	**12.83**	**6.27**	**0.52**	**0.00**
	Grand Total C+D	**95,232**				**711.38**	**162.50**	**191.46**	**172.54**	**107.21**	**59.64**	**18.02**	**-**

Note:

1. Refer Annexure I to XIX for details of calculation given above.

2. The above calculation is based on CPWD PAR 2012. The cost index is based on DPAR 2012 issued by the office of the Chief Engineer , SZ –VI, CPWD, Vijayawada dated 22/06/2016.

3. The construction activity is estimated to be completed by 5th year. The equipment cost is taken in 6th year also as courses in School of Science will begin from F.Y. 2020-21 as given in Chapter 5, Table 5.3 (B) and setting-up laboratory and purchase of laboratory equipments will be done accordingly.

9.5 RECURRING COST OF CENTRAL UNIVERSITY

The Recurring Cost of the Central University has been estimated to be **Rs. 142.42 crore**. The Recurring cost includes:

a) Employees cost towards On-Roll Staff (Teaching & Non-Teaching),
b) Employees cost towards Outsourced Staff,
c) Cost of Provision of Electricity and Generator Back-up,
d) Cost of General Administrative Expenses and
e) Cost towards Provision of Hostel Facilities**.**

The Total Recurring Cost of the New Campus is shown below in Table 9.4. To make the Universities financial sustainable, the University may plan a revenue generation model so that 50% of the recurring cost shall be generated by the University itself after it moves to its permanent campus in F.Y. 2020-21.

Total Estimated Recurring Expenditure is Rs.142.42 crore for the main campus.

Table 9.4: Estimations of Recurring Cost for Central University, Andhra Pradesh (Rs in crores)

(Rs in crores)

Particulars	F.Y. 20-21	F.Y. 21-22	F.Y. 22-23	F.Y. 23-24	Permanent Campus cost
EXPENDITURE					
Employees Remuneration	7.26	11.28	16.86	21.98	57.39
Other Benefit to Employees	0.73	1.13	1.69	2.20	5.74
7th PC Provision	1.85	2.87	4.28	5.58	14.58
Adjunct Faculty Costs	0.13	0.35	0.14	0.38	0.99
Electricity Expenses	2.97	5.01	6.57	9.20	23.76
Generator Running & Maint. Exp.	0.12	0.21	0.29	0.40	1.02
General Admn. Expenses	3.55	6.05	8.56	11.00	29.16
Hostel Expenses	0.20	0.36	0.51	0.65	1.71
Outsourced Resources					
House Keeping	0.24	0.44	0.61	0.81	2.11
Security Charges	0.69	1.25	1.73	2.29	5.96
Total	**17.73**	**28.95**	**41.25**	**54.49**	**142.42**

9.5.1 Employees Remuneration and Benefits for On- Roll staff

The employees' costs, pay structures for various categories of staff have been considered as per 6th pay commission norms of salary as per UGC. In addition, for provisioning the increase in salary due to 7th pay commission, 23.55% additional cost has been added on 6th pay commission. The employees' costs also include cost of other benefits like Medical Re-imbursement, LTA, Education Allowance etc. Since the period of estimation is spread over to next 4years therefore to cover the future inflation costs an increment of 8% has been provided every year. In order to calculate Cost towards other emoluments/ benefits to staff a provision of 10 % has been made every year on the Salary Cost. The cost break-up of Employee remuneration is given in Table 9.5.

Table 9.5: Cost break-up of Employee remuneration

SI. No.	Head of expenditure	F.Y. 2017-18	F.Y. 2018-19	F.Y. 2019-20	F.Y. 2020-21	F.Y. 2021-22	F.Y. 2022-23	F.Y. 2023-24
1	Salary	Transit Campus			Permanent Campus			
	Faculty	0.98	1.40	2.46	4.51	7.29	11.10	14.57
	Support Staff	1.16	1.25	1.72	2.75	3.99	5.76	7.42
	Total	**2.14**	**2.66**	**4.18**	**7.26**	**11.28**	**16.86**	**21.98**
2	Others-Components (Leave Encash on LTC,T.A./L.T.C., Children Edu. Allowances, Retirement Benefits, other allowances)	0.21	0.27	0.42	0.73	1.13	1.69	2.20
	Total (1+2)	**2.35**	**2.92**	**4.60**	**7.99**	**12.40**	**18.55**	**24.18**

9.5.2. Administrative Expenses

The administrative expenses have been calculated on the bases of total student and faculty strength of the University. The detail is given in Table 9.6.

Table 9.6: Cost break-up of Administrative Expenses

Particulars	F.Y. 2017-18	F.Y. 2018-19	F.Y. 2019-20	F.Y. 2020-21	F.Y. 2021-22	F.Y. 2022-23	F.Y. 2023-24
	Transit Campus			Permanent Campus			
Printing & Stationery & Examination Exps	0.04	0.09	0.21	0.50	0.91	1.29	1.67
Telephone /Fax/ Lease Line Rent	0.06	0.12	0.27	0.66	1.21	1.71	2.22
Postage & Courier Charges	0.01	0.02	0.04	0.08	0.15	0.22	0.28
Entertainment Expenses	0.00	0.01	0.02	0.05	0.10	0.14	0.18
Advertisement & Publicity	0.03	0.06	0.14	0.34	0.62	0.89	1.15
Canteen & Service exp.	0.01	0.02	0.05	0.13	0.23	0.32	0.42
Transport, Travelling & Conveyance	0.07	0.15	0.34	0.83	1.52	2.15	2.79
Other Expenses	0.03	0.06	0.14	0.33	0.60	0.86	1.11
Convocation & Seminar Exps	-	-	0.10	0.15	0.20	0.25	0.30
Repair & Maint., Insurance	0.08	0.19	0.28	0.46	0.50	0.74	0.88
TOTAL	**0.33**	**0.71**	**1.59**	**3.55**	**6.05**	**8.56**	**11.00**

9.5.3 Hostel Expenses

Hostel is proposed for only 60% of students of the University. For estimation of cost for hostel, it is aassumed that 95% Charges on A/C, Mess and Other Charges will be recovered from Students as being Separate Wings in University. Year- wise hostel expenses in given in Table 9.7.

Table 9.7: Hostel expenses for the period of 7 years

Particular		**Total**	**F.Y. 2017-18**	**F.Y. 2018-19**	**F.Y. 2019-20**	**F.Y. 2020-21**	**F.Y. 2021-22**	**F.Y. 2022-23**	**F.Y. 2023-24**
			Transit Campus			Permanent Campus			
No. of Students	Yearly		102	204	450	1019	1724	2256	2705
Expenditure Per Day (Rs.)	Per Student		100.00	108.00	116.64	125.97	136.05	146.93	158.69
No. of Days			305	305	305	305	305	305	305
Hostel Charges Per Student	(Rs.)		3,111,000	6,719,760	16,008,840	39,143,535	71,553,828	101,101,526	130,911,419
5% of Hostel Charges	(Rs. in Crores)	**1.84**	**0.02**	**0.03**	**0.08**	**0.20**	**0.36**	**0.51**	**0.65**

TABLE OF CONTENTS

		PAGE
EXECUTIVE SUMMARY		i-xv
Chapter 1:	INTRODUCTION	1-2
1.1	BACKGROUND	1
1.2	SCOPE OF THE PRESENT STUDY	2
1.3	PROJECT METHODOLOGY	2
Chapter 2:	THE STATE OF ANDHRA PRADESH: OPPORTUNITES	3-6
2.1.	INTRODUCTION	3
2.2	ESTABLISHMENT OF CENTRAL UNIVERSITY IN ANDHRA PRADESH	5
Chapter 3:	VISION, MISSION, VALUES AND OBJECTIVES	7-8
3.1	VISION	7
3.2	MISSION	7
3.3	VALUES	7
3.4	OBJECTIVES	8
Chapter 4:	GOVERNANCE AND EXECUTIVE MANAGEMENT	9-33
4.1	INTRODUCTION	9
4.2	AUTHORITIES OF THE UNIVERSITY	10
4.3	EXECUTIVE MANAGEMENT	13
4.4	SYSTEM OF MANAGEMENT OF THE SCHOOLS OF STUDY	18
4.5	SYSTEM OF MANAGEMENT OF TEACHING DEPARTMENTS & INTER – DISCIPLINARY CENTRES	19
4.6	SYSTEM OF MANAGEMENT OF NON-ACADEMIC STUDENT AFFAIRS	20
4.7	COORDINATING MECHANISM	22
4.8	OFFICERS AND THEIR FUNCTIONS	23
Chapter 5:	ACADEMIC DIVISIONS AND PROGRAMMES	34-42
5.1.	ACADEMIC DIVISIONS	34
5.2.	TYPES OF PROGRAMMES	34
5.3.	PROJECTED STUDENT STRENGTH OF THE UNIVERSITY	36
5.4.	COURSE STRUCTURE	41
5.5	BASIS OF ADMISSION	41

		PAGE
Chapter 6:	HUMAN RESOURCES	43-49
6.1.	INTRODUCTION	43
6.2.	CLASSIFICATION OF STAFF	43
6.3	FACULTY POSTS	44
6.4	NON-TEACHING POSTS	46
6.5	SUPPORT MANPOWER THROUGH OUTSOURCING	49
Chapter 7:	PHYSICAL INFRASTRUCTURE RESOURCES	50-74
7.1.	PHYSICAL INFRASTRUCTURE REQUIREMENT	50
7.2.	LAND & LAND DEVELOPMENT	52
7.3.	BUILT-UP SPACES FOR COMPLEXES	52
7.3.1.	Academic Complexes	52
7.3.2.	Administrative Complex	58
7.4	STUDENT HOSTEL	60
7.5.	ACADEMIC & SUPPORT STAFF RESIDENCES AND AMENITIES	65
	7.5.1. Faculty Residences	65
	7.5.2. Support Staff Residences	65
	7.5.3. General Amenities	66
	7.5.4. Guest House	69
	7.5.5. Health Centre	70
7.6.	UTILITIES	72
7.7.	EQUIPMENT & FURNITURE	74
Chapter 8:	ENVIRONMENT IMPACT ASSESSMENT	75-128
8.1.	BACKGROUND	75
8.2.	INTRODUCTION	76
8.3.	STATUTORY APPROVALS REQUIRED IN PRE CONSTRUCTION STAGE FOR PROPOSED UNIVERSITY	80
8.4.	SITE DESCRIPTION AND SURROUNDINGS	82
8.5.	PHYSICAL CHARACTERSTICS OF THE AREA	85
8.6.	CLIMATE& RAINFALL	89
8.7.	TEMPERATURE	90
8.8.	GROUND WATER	91
8.9.	AIR QUALITY	96
8.10.	SOCIO-ECONOMIC CONDITIONS	98
8.11.	ENVIRONMENTAL IMPACTS WITH MITIGATION	99
8.12.	IMPACTS ON LAND ENVIRONMENT	100
8.13.	TYPE OF WASTE	102
8.14.	MANAGEMENT ALTERNATIVES	102
8.15.	IMPACTS ON TOPOGRAPHY AND GEOLOGY	107
8.16.	IMPACTS ON AIR ENVIRONMENT	109

PAGE

8.17. IMPACTS ON NOISE ENVIRONMENT 112
8.18. RECOMMENDED PLANT SPECIESFOR GREEN BELT DEVELOPMENT 116
8.19. IMPACTS ON WATER ENVIRONMENT 121
8.20 IMPACTS ON SOCIO-ECONOMIC ENVIRONMENT 126

Chapter 9: FINANCIAL PLAN FOR SETTING UP THE PROPOSED CENTRAL UNIVERSITY IN ANDHRA PRADESH 129-138

9.1 FINANCIAL REQUIREMENT 129
9.2 TOTAL PROJECT COST 129
9.3 TRANSIT CAMPUS COST 131
9.4 CAPITAL COST ESTIMATE OF CENTRAL UNIVERSITY 132
9.5 RECURRING COST OF CENTRAL UNIVERSITY 135

LIST OF TABLES

		PAGE
Table 4.1:	Schematic of the inter- linked system of Governance and Executive & Operations Management	9
Table 4.2:	Line and Support Operations at the Central University of Andhra Pradesh	14
Table 4.3:	Role & Responsibilities of Key Officers	24
Table 5.1:	Academic Programmes under different School of Studies	35
Table 5.2:	Year-Wise Student Strength for under the Aegis of Individual Schools of Study	36
Table 5.3:	Year Wise Student Strength as per Academic Programme under various departments	37
Table 6.1:	Classification of Tenured Staff	43
Table 6.2:	Classification of Non-teaching cadre staff	44
Table 6.3:	Department-wise Faculty requirement	45
Table 6.4:	Year-wise requirement of Teaching staff	46
Table 6.5:	Year-wise requirement of Non-teaching staff	47
Table 6.6:	List of Non-teaching staff with pay band and grade pay	48
Table 6.7:	Year-wise requirement of outsourcing staff	49
Table 7.1:	Built-up area for different buildings of Central University, Andhra Pradesh	51
Table 7.2:	Area Requirement for Different Schools	53
Table 7.3:	Space Requirements for the Central Academic Service Facilities	54
Table 7.4:-	Space requirement for Central Library	55
Table 7.5:-	Space Requirement for Computer Centre	57
Table 7.6:-	Space Requirement for Computer Centre	58
Table 7.7:-	Space Requirement for Administrative Complex	59
Table 7.8:	Space Requirements Students Hostel	61
Table 7.9:	Built-up Space for the Hostels and Student Amenities	64
Table 7.10:	Space Requirement for Faculty and Staff Residence	66
Table 7.11:	Space Requirement for Guest House	70
Table 7.12:	Space Requirement for Health Centre	71
Table 7.13:	Built-up Space for Academic & Support Staff Housing and Amenities	72
Table 8.1:	Site Surroundings	83
Table 8.2:	Site Location	83
Table-8.3	Important Features Surrounding Project Site	85
Table 8.4:	Census details of Core zone Village	99
Table 8.5:	Constituents of construction waste to be generated at the site	104
Table 8.6:	Hazardous waste to be generated from the construction of proposed Central University in Andhra Pradesh	106
Table 8.7:	Recommended Tree Species for Green Belt Development as per CPCB	116
Table 8.8:	Shrubs species proposed for Green Belt development	120
Table: 8.9	Environmental Impact Matrix of the proposed project activity	128
Table 9.1 (a):	Project Cost Estimations	129
Table 9.1 (b):	Project Cost Estimations Year wise Plan	130
Table 9.2:	Cost for Transit Campus	131
Table 9.3:	Capital Cost Estimations of Campus	133
Table 9.4:	Estimations of Recurring Cost for Central University	136
Table 9.5:	Cost break-up of Employee remuneration	137
Table 9.6:	Cost break-up of Administrative Expenses	137
Table 9.7:	Hostel expenses for the period of 7 years	138

ANNEXURE

PAGE

Annexure I: Capital Cost Estimate for Development of Site 139
Annexure II: Capital Cost Estimate for School of Arts, Humanities & Social Science 140
Annexure III: Capital Cost Estimate for School of Interdisciplinary and Applied Sciences 141
Annexure IV: Capital Cost Estimate for School of Languages 142
Annexure V: Capital Cost Estimate for School of Vocational Studies and Skill Development 143
Annexure VI: Capital Cost Estimate for School of Commerce & Management 144
Annexure VII: Capital Cost Estimate for Administrative Building 145
Annexure VIII: Capital Cost Estimate for Central Library 146
Annexure IX: Capital Cost Estimate for Computer Centre 147
Annexure X: Capital Cost Estimate for Auditorium/ Conference Complex 148
Annexure XI: Capital Cost Estimate for Guest House 149
Annexure XII: Capital Cost Estimate for Health Centre 150
Annexure XIII: Capital Cost Estimate for Student Hostels and Apartments 151
Annexure XIV: Capital Cost Estimate for Faculty Housing 152
Annexure XV: Capital Cost Estimate for Community Centre 153
Annexure XVI: Capital Cost Estimate for Student Activity Centre 154
Annexure XVII: Capital Cost Estimate for Allied Provision for Main Campus 155
Annexure XVIII: Capital Cost Estimate for Furniture, Lab Equipment, Office & IT equipment, Library requirements 158
Annexure XIX: Site Specific Provisions 165
Annexure XX: Time-line for Infrastructure Development 166
Annexure XXI: Cost Index 168
Annexure XXII: GPRA Norms 170

Annexure I

Development of Site : total area- 502.95 acres (2035368 sqm)

S.No.	Item	Unit	Quantity	Rate	Amount	Cost index	Amount in Rs. Cr.
1	Levelling	m2	1424758	95	135352010	1.09	14.75
2	Internal roads and paths	m2	1424758	145	206589910	1.09	22.52
3	Sewer	m2	1424758	110	156723380	1.09	17.08
4	Distt lines 100mm dia and below	m2	1424758	80	113980640	1.09	12.42
5	Peripheral grid 150 mm to 300 mm	m2	1424758	60	85485480	1.09	9.32
6	Unfiltered water supply Distt lines	m2	1424758	45	64114110	1.09	6.99
7	Storm Water Drains	m2	1424758	85	121104430	1.09	13.20
8	Horticulture operations	m2	1424758	80	113980640	1.09	12.42
9	Street Lighting with HPSV lamps	m2	1424758	165	235085070	1.09	25.62
10	Exit Sign board including electric signage	m2	1424758	85	121104430	1.09	13.20
11	Tube well and pumping stations	each	4	600000	2400000		0.24
12	Boundary Wall	per m	5708	8000	45664000		4.57
13	Sub Station Equipment @ Rs. 7,000 per KVA based on Supplement PAR for Specialized E&M works	per KVA	6,710	7500	50322150	1.09	5.49
14	Underground Water Storage tanks, Over head storage & terrace						2.67
15	External Fire Mains		1	15000000	15000000		1.50
				Sub-Total			**162.00**

Note: Electricity Connection and Water Supply connection shall be provided by the State Government upto the campus. So no provision has been provided for the same. Development of 70% of total land has been considered.

Annexure II

Faculty of Arts, Humanities & Social Science Max 3 Storey i.e. (G+2)
Total Built-up Area= 7262 Sq m, Ground Floor Area= 2421 sq m, Floor Height=3.95 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Amount (in Rs. Cr.)
1	RCC Framed Structure	7262.25	Sq M	23500	170,662,875.00	17.07
2	Add for each additional floor height of 0.30 M above 3.35 M up to 3.95 M = [(3.95-3.35)/0.3] x 270=540	7262.25	Sq M	540	3,921,615.00	0.39
3	**Total (A)**				**174,584,490.00**	17.46
4	For every 0.3 M deeper foundation beyond 1.2 M up to 1.8 M on ground floor area [(1.8-1.2)/0.3]x270=540	2421	Sq M	540	1,307,205.00	0.13
5	Earthquake resistant forces	7262.25	Sq M	1140	8,278,965.00	0.83
6	Fire Fighting - sprinkler system	7262.25	Sq M	750	5,446,687.50	0.54
7	Fire Alarm System	7262.25	Sq M	500	3,631,125.00	0.36
8	**Total (B)**				**18,663,982.50**	1.87
9	**Internal Services**					
10	Water supply (@4%)	174,584,490.00	Rs	0.04	6,983,379.60	0.70
11	External service connection (@5%)	174,584,490.00	Rs	0.05	8,729,224.50	0.87
12	Internal electric including power, telephone LAN, Lightening conductor, etc @ (19%)	174,584,490.00	Rs	0.19	33,171,053.10	3.32
13	**Total (C)**				**48,883,657.20**	4.89
14	Elevators for 13 passengers & G+2 stories	2	No	2200000	4,400,000.00	0.44
15	**Total (D)**				**4,400,000.00**	0.44
16	**Grand Total (A+B+C+D)**				**246,532,129.70**	24.65
17	**Cost per Sq M**				**33,947**	

School of Interdisciplinary and Applied Sciences Max 3 Storey i.e. (G+2)
Total Built-up Area= 2562 Sq m, Ground Floor Area= 854 sq m, Floor Height=3.95 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Amount (in Rs. Cr.)
1	RCC Framed Structure	2562.25	Sq M	23500	60,212,875.00	6.02
2	Add for each additional floor height of 0.30 M above 3.35 M up to 3.95 M = [(3.95-3.35)/0.3] x 270=540	2562.25	Sq M	540	1,383,615.00	0.14
3	**Total (A)**				**61,596,490.00**	6.16
4	For every 0.3 M deeper foundation beyond 1.2 M up to 1.8 M on ground floor area [(1.8-1.2)/0.3]x270=540	854	Sq M	540	461,205.00	0.05
5	Earthquake resistant forces	2562.25	Sq M	1140	2,920,965.00	0.29
6	Fire Fighting - sprinkler	2562.25	Sq M	750	1,921,687.50	0.19
7	Fire Alarm System	2562.25	Sq M	500	1,281,125.00	0.13
8	**Total (B)**				**6,584,982.50**	0.66
9	**Internal Services**					
10	Water supply (@4%)	61,596,490.00	Rs	0.04	2,463,859.60	0.25
11	External service connection (@5%)	61,596,490.00	Rs	0.05	3,079,824.50	0.31
12	Internal electric including power, telephone LAN, Lightening conductor, etc @ (19%)	61,596,490.00	Rs	0.19	11,703,333.10	1.17
13	**Total (C)**				**17,247,017.20**	1.72
14	Elevators for 13 passengers & G+2 stories	1	No	2200000	2,200,000.00	0.22
15	**Total (D)**				**2,200,000.00**	0.22
16	**Grand Total (A+B+C+D)**				**87,628,489.70**	8.76
17	**Cost per Sq M**				**34,200**	

Annexure IV

School of Language Max 3 Storey i.e. (G+2)
Total Built-up Area= 6013 Sq m, Ground Floor Area= 2004 sq m, Floor Height=3.95 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Amount (in Rs. Cr.)
1	RCC Framed Structure	6013.75	Sq M	23500	141,323,125.00	14.13
2	Add for each additional floor height of 0.30 M above 3.35 M up to 3.95 M = [(3.95-3.35)/0.3] x 270=540	6013.75	Sq M	540	3,247,425.00	0.32
3	**Total (A)**				**144,570,550.00**	14.46
4	For every 0.3 M deeper foundation beyond 1.2 M up to 1.8 M on ground floor area [(1.8-1.2)/0.3]x270=540	2004.58	Sq M	540	1,082,475.00	0.11
5	Earthquake resistant forces	6013.75	Sq M	1140	6,855,675.00	0.69
6	Fire Fighting - Sprinkler	6013.75	Sq M	750	4,510,312.50	0.45
7	Fire Alarm System	6013.75	Sq M	500	3,006,875.00	0.30
8	**Total (B)**				**15,455,337.50**	1.55
9	**Internal Services**					
10	Water supply (@4%)	144,570,550.00	Rs	0.04	5,782,822.00	0.58
11	External service connection (@5%)	144,570,550.00	Rs	0.05	7,228,527.50	0.72
12	Internal electric including power, telephone LAN, Lightening conductor etc @ (19%)	144,570,550.00	Rs	0.19	27,468,404.50	2.75
13	**Total (C)**				**40,479,754.00**	4.05
14	Elevators for 13 passengers & G+2 stories	2	No	2200000	4,400,000.00	0.44
15	**Total (D)**				**4,400,000.00**	0.44
16	**Grand Total (A+B+C+D)**				**204,905,641.50**	20.49
17	**Cost per Sq M**				**34,073**	

Annexure V

School of Vocational Education & Skill Development Max 3 Storey i.e. (G+2)
Total Built-up Area= 2235 Sq m, Ground Floor Area= 745 sq m, Floor Height=3.95 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Amount (in Rs. Cr.)
1	RCC Framed Structure	2235.00	Sq M	23500	52,522,500.00	5.25
2	Add for each additional floor height of 0.30 M above 3.35 M up to 3.95 M = [(3.95-3.35)/0.3] x 270=540	2235	Sq M	540	1,206,900.00	0.12
3	**Total (A)**				**53,729,400.00**	5.37
4	For every 0.3 M deeper foundation beyond 1.2 M up to 1.8 M on ground floor area [(1.8-1.2)/0.3]x270=540	745	Sq M	540	402,300.00	0.04
5	Earthquake resistant forces	2235	Sq M	1140	2,547,900.00	0.25
6	Fire Fighting - Sprinkler	2235	Sq M	750	1,676,250.00	0.17
7	Fire Alarm System	2235	Sq M	500	1,117,500.00	0.11
8	**Total (B)**				**5,743,950.00**	0.57
9	**Internal Services**					
10	Water supply (@4%)	53,729,400.00	Rs	0.04	2,149,176.00	0.21
11	External service connection (@5%)	53,729,400.00	Rs	0.05	2,686,470.00	0.27
12	Internal electric including power, telephone LAN, Lightening conductor, etc @ (19%)	53,729,400.00	Rs	0.19	10,208,586.00	1.02
13	**Total (C)**				**15,044,232.00**	1.50
14	Elevators for 13 passengers & G+2 stories	1	No	2200000	2,200,000.00	0.22
15	**Total (D)**				**2,200,000.00**	0.22
16	**Grand Total (A+B+C+D)**				**76,717,582.00**	7.67
17	**Cost per Sq M**				**34,326**	

School of Commerce and Management Max 3 Storey i.e. (G+2)
Total Built-up Area= 3719 Sq m, Ground Floor Area= 1240 sq m, Floor Height=3.95 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Amount (in Rs. Cr.)
1	RCC Framed Structure	3718.75	Sq M	23500	87,390,625.00	8.74
2	Add for each additional floor height of 0.30 M above 3.35 M up to 3.95 M = [(3.95-3.35)/0.3] x 270=540	3718.75	Sq M	540	2,008,125.00	0.20
3	**Total (A)**				**89,398,750.00**	8.94
4	For every 0.3 M deeper foundation beyond 1.2 M up to 1.8 M on ground floor area [(1.8-1.2)/0.3]x270=540	1240	Sq M	540	669,375.00	0.07
5	Earthquake resistant forces	3718.75	Sq M	1140	4,239,375.00	0.42
6	Fire Fighting - Sprinkler	3718.75	Sq M	750	2,789,062.50	0.28
7	Fire Alarm System	3718.75	Sq M	500	1,859,375.00	0.19
8	**Total (B)**				**9,557,187.50**	0.96
9	**Internal Services**					
10	Water supply (@4%)	89,398,750.00	Rs	0.04	3,575,950.00	0.36
11	External service connection (@5%)	89,398,750.00	Rs	0.05	4,469,937.50	0.45
12	Internal electric including power, telephone LAN, Lightening conductor, etc @ (19%)	89,398,750.00	Rs	0.19	16,985,762.50	1.70
13	**Total (C)**				**25,031,650.00**	2.50
14	Elevators for 13 passengers & G+2 stories	1	No	2200000	2,200,000.00	0.22
15	**Total (D)**				**2,200,000.00**	0.22
16	**Grand Total (A+B+C+D)**				**126,187,587.50**	12.62
17	**Cost per Sq M**				**33,933**	

Administrative Building (G+2) Max 3 Storey
Total Built-up Area= 6000 Sq m, Ground Floor Area= 2000 sq m, Floor Height=3.65 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Amount (in Rs. Cr.)
1	RCC Framed Structure	6000	Sq M	23500	141,000,000.00	14.1
2	Add for each additional floor height of 0.30 M above 3.35 M up to 3.65 M = [(3.65-3.35)/0.3] x 270=270	6000	Sq M	270	1,620,000.00	0.16
3	**Total (A)**				**142,620,000.00**	14.26
4	For every 0.3 M deeper foundation beyond 1.2 M up to 1.5 M on ground floor area [(1.8-1.2)/ 0.3] x270=540	2000	Sq M	540	1,080,000.00	0.11
5	Earthquake resistant forces	6000	Sq M	1140	6,840,000.00	0.684
6	Larger Modules	6000	Sq M	1500	9,000,000.00	0.90
7	Fire Fighting - Sprinkler	6000	Sq M	750	4,500,000.00	0.45
8	Fire Alarm System	6000	Sq M	500	3,000,000.00	0.3
9	**Total (B)**				**24,420,000.00**	2.44
10	**Internal Services**					0
11	Water supply (@4%)	142,620,000.00	Rs	0.04	5,704,800.00	0.57
12	External service connection (@5%)	142,620,000.00	Rs	0.05	7,131,000.00	0.71
13	Internal electric including power, telephone LAN, Lightening conductor, etc @ (19%)	142,620,000.00	Rs	0.19	27,097,800.00	2.71
14	**Total (C)**				**39,933,600.00**	3.99
15	Elevators for 13 passengers & G+2 stories	2	No	2200000	4,400,000.00	0.44
16	**Total (D)**				**4,400,000.00**	0.44
17	**Grand Total (A+B+C+D)**				**211,373,600.00**	21.14
18	**Cost per Sq M**				**35,229**	

Annexure VIII

Central Library (G+2)
Total Built-up Area= 4000 Sq m, Ground Floor Area= 1333 sq m, Floor Height= 4.25M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Amount (in Rs. Cr.)
1	RCC Framed Structure	4000	Sq M	23500	94,000,000.00	9.4
2	Add for each additional floor height of 0.30 M above 3.35 M up to 4.25 M = [(4.25-3.35)/0.3] x 270=810	4000	Sq M	810	3,240,000.00	0.32
3	**Total (A)**				**97,240,000.00**	**9.72**
4	Stronger structural members to take heavy loads above 500 kg/sqm up to 1000 kg/sqmt.	3000	Sq M	1500	4,500,000.00	0.45
5	For every 0.3 M deeper foundation beyond 1.2 M [taking average depth at 1.8M] [(1.8-1.2)/0.3]x270=540	1333	Sq M	540	720,000.00	0.07
6	Larger Modules	4000	Sq M	1500	6,000,000.00	0.60
7	Earthquake resistant forces	4000	Sq M	1140	4,560,000.00	0.46
8	Fire Fighting - Sprinkler	4000	Sq M	750	3,000,000.00	0.3
9	Fire Alarm System	4000	Sq M	500	2,000,000.00	0.2
10	**Total (B)**				**16,280,000.00**	**1.63**
11	**Internal Services**					
12	Water supply (@4%)	97,240,000.00	Rs	0.04	3,889,600.00	0.39
13	External service connection (@5%)	97,240,000.00	Rs	0.05	4,862,000.00	0.49
14	Internal electric including power, telephone LAN, Lightening conductor, etc @ (19%)	97,240,000.00	Rs	0.19	18,475,600.00	1.85
15	**Total (C)**				**27,227,200.00**	**2.72**
16	Elevators for 13 passengers upto G+2 stories	1	No	2200000	2,200,000.00	0.22
	Goods Lift	1		2600000	2,600,000.00	0.26
17	**Total (D)**				**4,800,000.00**	**0.48**
18	**Grand Total (A+B+C+D)**				**145,547,200.00**	**14.55**
19	**Cost per Sq M**				**36,387**	

Computer Center (G+2)
Total Built-up Area= 1200 Sq m, Ground Floor Area= 400 sq m, Floor Height= 4.25M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Amount (in Rs. Cr.)
1	RCC Framed Structure	1200	Sq M	23500	28,200,000.00	2.82
2	Add for each additional floor height of 0.30 M above 3.35 M up to 4.25 M = [(4.25-3.35)/0.3] x 270=810	1200	Sq M	810	972,000.00	0.10
3	**Total (A)**				**29,172,000.00**	**2.92**
4	For every 0.3 M deeper foundation beyond 1.2 M up to 1.8 M on ground floor area [(1.8-1.2)/0.3]x270=540	400	Sq M	540	216,000.00	0.02
5	Earthquake resistant forces	1200	Sq M	1140	1,368,000.00	0.14
6	Fire Fighting - Sprinkler	1200	Sq M	750	900,000.00	0.09
7	Fire Alarm System	1200	Sq M	500	600,000.00	0.06
8	**Total (B)**				**3,084,000.00**	**0.31**
9	**Internal Services**					
10	Water supply (@4%)	29,172,000.00	Rs	0.04	1,166,880.00	0.12
11	External service connection (@5%)	29,172,000.00	Rs	0.05	1,458,600.00	0.15
12	Internal electric including power, telephone LAN, Lightening conductor, etc @ (19%)	29,172,000.00	Rs	0.19	5,542,680.00	0.55
13	**Total (C)**				**8,168,160.00**	**0.82**
14	Elevators for 13 passengers upto G+2 stories	1	No	2200000	2,200,000.00	0.22
15	**Total (D)**				**2,200,000.00**	**0.22**
16	**Grand Total (A+B+C+D)**				**42,624,160.00**	**4.26**
17	**Cost per Sq M**				**35,520**	

Annexure X

Conference Hall/ Auditorium (G+1)
Total Built-up Area= 3700 Sq m

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Amount (in Rs. Cr.)
1	RCC Framed Structure	3700	Sq M	23500	86,950,000.00	8.695
2	Add for each additional floor height of 0.30 M above 3.35 M up to 5.75 M = [(5.75-3.35)/0.3] x 270=8 x 270 = 2160	3700	Sq M	2160	7,992,000.00	0.80
	Total (A)				**94,942,000.00**	**9.49**
3	For every 0.3 M deeper foundation beyond 1.2 M up to 1.8 M on ground floor area [(1.8-1.2)/0.3]x270=540	3700	Sq M	540	1,998,000.00	0.20
4	Larger Modules	3700	Sq M	1500	5,550,000.00	0.56
5	Fire Fighting - Sprinkler	3700	Sq M	750	2,775,000.00	0.2775
6	Fire Alarm System	3700	Sq M	500	1,850,000.00	0.19
	Total (B)				**12,173,000.00**	**1.22**
	Internal Services					
7	Water supply (@4%)	94,942,000.00	Rs	0.04	3,797,680.00	0.38
8	External service connection (@5%)	94,942,000.00	Rs	0.05	4,747,100.00	0.47
9	Internal electric including power, telephone LAN, Lightening conductor, etc @ (19%)	94,942,000.00	Rs	0.19	18,038,980.00	1.80
	Total (C)				**26,583,760.00**	**2.66**
	Grand Total (A+B+C)				**133,698,760.00**	**13.37**
	Cost per Sq M				**36,135**	

Annexure XI

Guest House (G+2)
Total Built-up Area= 1840 Sq m, Ground Floor Area= 613 sq m,

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Amount (in Rs. Cr.)
1	RCC Framed Structure	1840	Sq M	16000	29,440,000.00	2.944
2	Add for each additional floor height of 0.30 M above 2.9 M up to 3.8 M = [(3.8-2.9)/0.3] x 270=810	1840	Sq M	810	1,490,400.00	0.15
3	**Total (A)**				**30,930,400.00**	**3.09**
4	For every 0.3 M deeper foundation beyond 1.2 M [taking average depth at 1.8M due to possibly poor soil bearing capacity] [(1.8-1.2)/0.3]x270=1080	613.33	Sq M	540	331,200.00	0.03
5	Earthquake resistant forces	1840	Sq M	1140	2,097,600.00	0.21
6	Fire Fighting - sprinkler	1840	Sq M	750	1,380,000.00	0.138
7	Fire Alarm System	1840	Sq M	500	920,000.00	0.092
8	**Total (B)**				**4,728,800.00**	**0.47**
9	**Internal Services**					
10	Water supply (@12%)	30,930,400.00	Rs	0.12	3,711,648.00	0.37
11	External service connection (@5%)	30,930,400.00	Rs	0.05	1,546,520.00	0.15
12	Internal electric including, telephone LAN, Lightening conductor, etc @ (14.5%)	30,930,400.00	Rs	0.145	4,484,908.00	0.45
13	**Total (C)**				**9,743,076.00**	**0.97**
14	Elevators for 13 passengers upto G+2 stories	1	No	2200000	2,200,000.00	0.22
15	**Total (D)**				**2,200,000.00**	**0.22**
16	**Grand Total (A+B+C+D)**				**47,602,276.00**	**4.76**
17	**Cost per Sq M**				**25,871**	

Annexure XII

Health Center (G+2)
Total Built-up Area= 1500 Sq m, Ground Floor Area= 500 sq m, Floor Height= 3.95M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Amount (in Rs. Cr.)
1	RCC Framed Structure	1500	Sq M	23500	35,250,000.00	3.53
2	Add for each additional floor height of 0.30 M above 3.35 M up to 3.95 M = [(3.95-3.35)/0.3] x 270=540	1500	Sq M	540	810,000.00	0.08
3	**Total (A)**				**36,060,000.00**	**3.61**
4	For every 0.3 M deeper foundation beyond 1.2 M up to 1.8 M on ground floor area [(1.8-1.2)/0.3]x270=540	500.00	Sq M	540	270,000.00	0.03
5	Earthquake resistant forces	1500	Sq M	1140	1,710,000.00	0.17
6	Fire Fighting - Sprinkler	1500	Sq M	750	1,125,000.00	0.11
7	Fire Alarm System	1500	Sq M	500	750,000.00	0.08
8	**Total (B)**				**3,855,000.00**	**0.39**
9	**Internal Services**					
10	Water supply (@10%)	36,060,000.00	Rs	0.1	3,606,000.00	0.36
11	External service connection (@5%)	36,060,000.00	Rs	0.05	1,803,000.00	0.18
12	Internal electric including power, telephone LAN, Lightening conductor, etc @ (19%)	36,060,000.00	Rs	0.19	6,851,400.00	0.69
14	**Total (C)**				**12,260,400.00**	**1.23**
15	Elevators for 8 passengers upto G+2 stories	1	No	1800000	1,800,000.00	0.18
16	Bed Lift	1	No	2600000	2,600,000.00	0.26
17	**Total (D)**				**4,400,000.00**	**0.44**
18	**Grand Total (A+B+C+D)**				**56,575,400.00**	**5.66**
19	**Cost per Sq M**				**37,717**	

Student Hostels and Apartments (max G+3)
Total Area=40000 Sq M, (shall have multiple blocks) Ground Floor Area=10000 Sq M
Floor Height= 2.90 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Amount (in Rs. Cr.)
1	RCC Framed Structure	40000	Sq M	16500	660,000,000	66.00
2	**Total (A)**				**660,000,000**	**66.00**
3	For every 0.3 M deeper foundation beyond 1.2 M [taking average depth at 1.8M due to possibly poor soil bearing capacity] [(1.8-1.2)/0.3]x270=540	10000	Sq M	540	5,400,000	0.54
4	Earthquake resistant forces	40000	Sq M	1140	45,600,000	4.56
5	**Total (B)**				**51,000,000**	**5.10**
6	**Internal Services**					
7	Water supply (50% attached toilet and 50% common toilets avg: 12.5%)	660,000,000.00	Rs	0.125	82,500,000	8.25
8	External service connection (@5%)	660,000,000.00	Rs	0.05	33,000,000	3.30
9	Internal electric including telephone LAN, Lightening conductor, etc @ (14%)	660,000,000.00	Rs	0.14	92,400,000	9.24
10	Fire Fighting - wet riser	40000	Sq M	500	20,000,000	2.00
11	Fire alarm system	40000	Sq M	500	20,000,000	2.00
12	**Total (C)**				**247,900,000**	**24.79**
13	Elevators for 13 passenger	10	No	2200000	22,000,000	2.20
14	**Total (D)**				**22,000,000**	**2.2**
15	**Grand Total (A+B+C+D)**				**980,900,000**	**98.09**
17	**Cost per Sq M**				**24,522.50**	

Faculty Housing (Max 4 Storey)
Total Area=11200 Sq M, (shall have multiple blocks) Ground Floor Area=2800 Sq M
Floor Height= 2.90 M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Amount (in Rs. Cr.)
1	RCC Framed Structure	11200	Sq M	16000	179,200,000.00	17.92
2	**Total (A)**				**179,200,000.00**	17.92
3	For every 0.3 M deeper foundation beyond 1.2 M [taking average depth at 1.8M due to possibly poor soil bearing capacity] [(1.8-1.2)/0.3]x270=540	2800	Sq M	540	1,512,000.00	0.15
4	Earthquake resistant forces	11200	Sq M	1140	12,768,000.00	1.28
5	**Total (B)**				**14,280,000.00**	**1.43**
6	**Internal Services**					
7	Water supply (@12%)	179,200,000.00	Rs	0.12	21,504,000.00	2.15
8	External service connection (@5%)	179,200,000.00	Rs	0.05	8,960,000.00	0.90
9	Internal electric including telephone LAN, Lightening conductor, etc @ (14.5%)	179,200,000.00	Rs	0.145	25,984,000.00	2.60
10	Fire Fighting - Wet riser	11200	Sq M	500	5,600,000.00	0.56
11	Fire alarm system	11200	Sq M	500	5,600,000	0.56
12	**Total (C)**				**62,048,000.00**	**6.20**
13	Elevators for 13 passengers	4	No	2200000	8,800,000.00	0.88
14	**Total (D)**				**8,800,000.00**	**0.88**
15	**Grand Total (A+B+C+D)**				**264,328,000.00**	**26.43**
16	**Cost per Sq M**				**23,600.71**	

Community Center (G+2)
Total Built-up Area= 1500 Sq m, Ground Floor Area= 500 sq m, Floor Height= 3.95M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Amount (in Rs. Cr.)
1	RCC Framed Structure	1500	Sq M	23500	35,250,000.00	3.53
2	Add for each additional floor height of 0.30 M above 3.35 M up to 3.95 M = [(3.95-3.35)/0.3] x 270=540	1500	Sq M	540	810,000.00	0.08
3	**Total (A)**				**36,060,000.00**	**3.61**
4	For every 0.3 M deeper foundation beyond 1.2 M [taking average depth at 1.8 M due to possibly poor soil bearing capacity] [(1.8-1.2)/0.3]x270=540	500.00	Sq M	540	270,000.00	0.03
5	Earthquake resistant forces	1500	Sq M	1140	1,710,000.00	0.17
6	Fire Fighting - Sprinkler	1500	Sq M	750	1,125,000.00	0.11
7	Fire Alarm System	1500	Sq M	500	750,000.00	0.08
8	**Total (B)**				**3,855,000.00**	**0.39**
9	**Internal Services**					
10	Water supply (@4%)	36,060,000.00	Rs	0.04	1,442,400.00	0.14
11	External service connection (@5%)	36,060,000.00	Rs	0.05	1,803,000.00	0.18
12	Internal electric including power, telephone LAN, Lightening conductor, etc @ (19%)	36,060,000.00	Rs	0.19	6,851,400.00	0.69
14	**Total (C)**				**10,096,800.00**	**1.01**
15	Elevators for 13 passengers upto G+2 stories	1	No	2200000	2,200,000.00	0.22
16	**Total (D)**				**2,200,000.00**	**0.22**
17	**Grand Total (A+B+C+D)**				**52,211,800.00**	**5.22**
18	**Cost per Sq M**				**34,808**	

Student Activity Center (G+2)
Total Built-up Area= 2500 Sq m, Ground Floor Area= 833 sq m, Floor Height= 4.25M

S No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)	Amount (in Rs. Cr.)
1	RCC Framed Structure	2500	Sq M	23500	58,750,000.00	5.88
2	Add for each additional floor height of 0.30 M above 3.35 M up to 4.25 M = [(4.25-3.35)/0.3] x 270=810	2500	Sq M	810	2,025,000.00	0.20
3	**Total (A)**				**60,775,000.00**	**6.08**
4	For every 0.3 M deeper foundation beyond 1.2 M [taking average depth at 1.8 M due to possibly poor soil bearing capacity] [(1.8-1.2)/0.3]x270=540	833	Sq M	540	450,000.00	0.05
5	Earthquake resistant forces	2500	Sq M	1140	2,850,000.00	0.29
6	Fire Fighting - Sprinkler	2500	Sq M	750	1,875,000.00	0.1875
7	Fire Alarm System	2500	Sq M	500	1,250,000.00	0.125
8	**Total (B)**				**6,425,000.00**	**0.64**
9	**Internal Services**					
10	Water supply (@4%)	60,775,000.00	Rs	0.04	2,431,000.00	0.24
11	External service connection (@5%)	60,775,000.00	Rs	0.05	3,038,750.00	0.30
12	Internal electric including power, telephone LAN, Lightening conductor, etc @ (19%)	60,775,000.00	Rs	0.19	11,547,250.00	1.15
14	**Total (C)**				**17,017,000.00**	**1.70**
15	Elevators for 13 passengers upto G+2 stories	1	No	2200000	2,200,000.00	0.22
16	**Total (D)**				**2,200,000.00**	**0.22**
17	**Grand Total (A+B+C+D)**				**86,417,000.00**	**8.64**
18	**Cost per Sq M**				**34,567**	

Annexure XVII

Allied Provision for Main Campus

Sr.No.	Description	Amount (Rs. In Lakhs)	Cost index	Amount (Rs. In crore)	Salvage Cost from transit Campus (in Rs. Cr.)	Cost after transit campus (in Rs. Cr)
1	HVAC	2677	1.09	29.18		**29.18**
2	Parking of 500 cars & 250 scooters (lumpsum)	200		2.00		**2.00**
3	IBMS, CCTV, Access Control, UPS	810	1.09	8.83	0.43	**8.40**
4	Power Back Up	360	1.09	3.92	0.17	**3.75**
5	Sports Complex	1502		15.02	0	**15.02**
6	Precision AC	30	1.09	0.33	0.11	**0.22**
7	Vehicles and Buses	200		2.00	0.70	**1.30**
8	**Total**			**61.29**	**1.41**	**59.88**

S.No.	Sports Complex Facility	Amount (Rs. In Lakhs)
1	Synthetic Track	400
2	Spectator Pavillions	250
3	Cricket field with 3 pitches	24
4	Practice Nets (6 nos)	18
5	Tennis Court (5 nos)	80
6	Badminton (10 nos)	30
7	Hockey/Football (2 nos)	600
8	Health Center/ Gym Equipment	100
	Total	1502

S.No.	Power Back Up	Amount (Rs. In Lakhs)
1	D.G. Genset for 3MW/3600kVA @ Rs. 10,000 per KVA based on Supplement PAR for Specialized E&M works	360

S.No.	Precision AC	Amount (Rs. In Lakhs)
1	Precision AC of 30 ton @ Rs. 1,00,000 per ton based on Supplement PAR for Specialized E&M works	30

S.No.	HVAC	Amount (Rs. In Lakhs)
	100% air conditioning of Admin, central library, computer centre, auditorium, guest house	16,740
	50% of all the schools	10896
	Total area in sqm	27,636
	Total area in Sq.ft.	297473.904
	Total tonnage @ 120 sq.ft. per ton	2478.9492
	Centralised airconditioning @ 108000/= per ton based on Supplement PAR for Specialized E&M works	2677.26514

S.No.	IBMS, CCTV, Access Control, UPS	Amount (Rs. In Lakhs)
1	CCTV, Access Control, Occupancy Sensors @ Rs. 300 +190+75 = Rs. 565 per sq meter based on Supplement PAR for Specialized E&M works	538
2	UPS: 200 kVA @ Rs. 44000 per kVA based on Supplement PAR (120 minutes back up)	88
3	BMS Built-up area upto 10000 sqm. Built-up area beyond 10000 sqm @160 per sqm	184.4
	Total (1+2+3)	810.43

Furniture, Lab Equipment, office & IT equipment, Library requirements			
Item	**Amount (Rs. In Cr.)**	**Salvage Cost from transit Campus (in Rs. Cr.)**	**Cost after transit campus (in Rs. Cr)**
Academic Laboratory Equipment:	20 (lumpsum)		
Sub - total	**20.00**		20.00
Central Facilities			
Computer Centre and IT Infra	25.00 (lumpsum)	4.43	
Library, ebooks, ejournals and other amenities	10.00 (lumpsum)		
Sub-total	**35.00**	4.43	30.57
Miscellaneous:			
Furniture including Guest House Furniture	42.63 (detail given below)	5.71	
Sub total	**42.63**	5.71	36.92
Total	**97.63**	**10.14**	**87.49**

Lab equipment cost, library books, IT facilities can only be estimated by subject experts after establishment of the University.

It is also dependent upon whether it is indigenous or from outside the country. So, a lumpsum amount has only been provided.

S.No.	Description	Rate (in Rs.)	Quantity	Amount (in Rs. Lakhs)	Amount (in Rs. Crores)
1	Hostel furniture per student	80,000	2676	2,141	**21.41**
2	Classroom furniture per student	20,000	4508	902	**9.02**
3	Academic staff Furniture	75,000	86	65	**0.65**
4	Non-teaching staff furniture	31,000	78	24	**0.24**
5	Guest House Furniture	180,000	18	32	**0.32**
6	Auditorium furniture per seat	50000	1400	700	**7.00**
7	Library Furniture per sq.m.	10000	4000	400	**4.00**
			Total	**4,263**	**42.63**

Hostel furniture per student		
S.No.	**Item**	**Cost**
1	Student Almirah	16500
2	Student Table with overhead cabinet and pin up board	9200
3	Student Bed with stoarge	18500
4	mattress for Bed	7000
5	Student Chair	3500
6	Mess (chair and table etc)	10000
	Total	64700
	Add: VAT @ 12.5%	8087.5
	Add: Installation @ 5%	3235
	Add: Transportation @5%	3235
	Total	79258
	Say	**80,000**

Classroom furniture per student		
S.No.	**Item**	**Cost**
1	Table (for each student on sharing basis)	5250
2	Chair (with tablet)	3500
3	Lecturer Table/podium with chair (one for 30 students)	500
4	Green chalk board magnetic with slide (4ft x 6 ft)	727
5	Projector with speakers (one for 30 students)	3333
	Total	13311
	Add: VAT @ 12.5%	1664
	Add: Installation @ 5%	666
	Add: Transportation @5%	666
	Total	16305
	Add: Miscellaneous	3,000
	Total	19305
	Say	**20,000**

Academic Staff Furniture		
S.No.	**Item**	**Cost**
1	Filing Cabinet	16500
2	Office Table	10500
3	Executive Chair	4000
4	Non Executive Chair (3 nos)	10500
5	Sofa (5 seater) with center table for 50 % of the rooms	12500
6	Computer Table/ Side Table	5000
	Total	59000
	Add: VAT @ 12.5%	7375
	Add: Installation @ 5%	2950
	Add: Transportation @5%	2950
	Total	72275
	Add: Misc.	2,500
	Total	74775
	Say	**75,000**

Non Teaching Staff Furniture		
S.No.	**Item**	**Cost**
1	Filing Cabinet	1000
2	Office Table	8000
3	Chair	4000
4	Non Executive Chair (3 nos)	5000
5	Computer Table/ Side Table	5000
	Total	23000
	Add: VAT @ 12.5%	2875
	Add: Installation @ 5%	1150
	Add: Transportation @5%	1150
	Total	28175
	Add: Misc.	2,500
	Total	30675
	Say	**31,000**

Guest House Furnishing		
S.No.	**Item**	**Cost**
1	Cupbaord	20000
2	Study Table with chair	10000
3	Double bed	40000
4	mattress for Bed	14000
5	LED TV	20000
6	Phone	1500
7	Sofa with coffee table	25000
8	Other amenities like tea/coffee maker, linen, etc	10000
	Total	140500
	Add: VAT @ 12.5%	17562.5
	Add: Installation @ 5%	7025
	Add: Transportation @5%	7025
	Total	172113
	Add: Misslaneous	7,500
	Total	179613
	Say	**180,000**

Annexure XIX

Site Specific Provisions						
S.No.	**Item**	**Unit**	**Quantity**	**Rate (Rs. In lacs)**	**Amount (Rs. In lacs)**	**Amount (Rs. In Cr.)**
1	Water Ponds and open reserviors	lumpsum	1	800	800	8
2	Construction of E.T.P and HDPE drainage lines for chemical discharge from labs	lumpsum	1	100	100	1
3	Sewage Treatment Plant	lumpsum	1	150	150	1.5
4	Water Treatment Plant	lumpsum	1	200	200	2
				Total	**1250**	**12.5**

Note: These are additional preliminary provisions made which are site specific.

Annexure XX

TIME-LINE FOR INSTRUCTURE DEVELOPMENT

S.No.	Name of Building	Total Covered Area in sq mtrs	Rate per sq mtr	Total (in Rs. Crore)	CPWD cost index	Total cost (in Rs. Crore)	F.Y. 17-18 (in Rs. Crore)	F.Y. 18-19 (in Rs. Crore)	F.Y. 19-20 (in Rs. Crore)	F.Y. 20-21 (in Rs. Crore)	F.Y. 21-22 (in Rs. Crore)	F.Y. 22-23 (in Rs. Crore)	F.Y. 23-24 (in Rs. Crore)
	Academic Complex												
1	School of Arts, Humanities and Social Sciences	7,262	33,947	24.65	1.09	26.87	5.37	13.44	8.06	0.00	0.00	0.00	0.00
2	School of Interdisciplinary and Applied Sciences	2,562	34,200	8.76	1.09	9.55	1.91	4.78	2.87	0.00	0.00	0.00	0.00
3	School of Languages	6,014	34,073	20.49	1.09	22.33	4.47	11.17	6.70	0.00	0.00	0.00	0.00
4	School of Vocational Education and skill development	2,235	34,326	7.67	1.09	8.36	1.67	4.18	2.51	0.00	0.00	0.00	0.00
5	School of Commerce and Management	3,719	33,933	12.62	1.09	13.75	2.75	6.88	4.13	0.00	0.00	0.00	0.00
6	Central Administrative Building	6,000	35,229	21.14	1.09	23.04	4.61	11.52	6.91	0.00	0.00	0.00	0.00
7	Central Library	4,000	36,387	14.55	1.09	15.86	1.59	4.76	6.35	3.17	0.00	0.00	0.00
8	Computer Centre	1,200	35,520	4.26	1.09	4.65	0.93	2.32	1.39	0.00	0.00	0.00	0.00
9	Conference complex/ Auditorium	3,700	36,135	13.37	1.09	14.57		4.37	5.83	4.37	0.00	0.00	0.00
	Residential Complex												
10	Guest house	1,840	25,871	4.76	1.09	5.19		1.56	1.56	1.56	0.52	0.00	0.00
11	Health Center	1,500	37,717	5.66	1.09	6.17			3.08	3.08	0.00	0.00	0.00
12	Student Hostels and Apartments (including warden & staff residences)	40,000	24,523	98.09	1.09	106.92	21.38	32.08	21.38	21.38	10.69	0.00	0.00
13	Faculty Housing	11,200	23,601	26.43	1.09	28.81	5.76	5.76	5.76	5.76	5.76	0.00	0.00
14	Community Centre/commercial	1,500	34,808	5.22	1.09	5.69	1.14	2.28	1.71	0.57	0.00	0.00	0.00

S.No.	Name of Building	Total Covered Area in sq mtrs	Rate per sq mtr	Total (in Rs. Crore)	CPWD cost index	Total cost (in Rs. Crore)	F.Y. 17-18 (in Rs. Crore)	F.Y. 18-19 (in Rs. Crore)	F.Y. 19-20 (in Rs. Crore)	F.Y. 20-21 (in Rs. Crore)	F.Y. 21-22 (in Rs. Crore)	F.Y. 22-23 (in Rs. Crore)	F.Y. 23-24 (in Rs. Crore)
	facilities for staff												
15	Student Activity Centre /Cafeteria/Shopping/Canteen	2,500	34,567	8.64	1.09	9.42		2.83	2.83	2.83	0.94	0.00	0.00
16	Development of Site			162		162.00	81.00	32.40	32.40	16.20	0.00	0.00	0.00
17	Allied Provision					59.88		11.98	11.98	17.96	17.96	0.00	0.00
18	Site Specific Infrastructure					12.50	7.50	5.00	0.00	0.00	0.00	0.00	0.00
19	Furnishing/Equipment Cost					87.49		8.75	26.25	17.50	17.50	17.50	0.00
	Grand Total	**95,232**				**623**	**140**	**166**	**152**	**94**	**53**	**17**	**0**

Time taken for planning and approvals/NOC from various government bodies.

PRESS BRIEF NOTE

Subject: New Plinth Area Norms- for General Pool Residential Accommodation (GPRA) to be constructed for Central Govt. Employees and its applicability to all Govt. Departments

Ministry of Urban Development (MOUD) is the Nodal Ministry for providing houses under General Pool Residential Accommodation (GPRA) to be constructed for Central Govt. Employees all over India. The present Plinth area Norms had been fixed in 1987by Ministry of Urban Development for Type I to Type VI catering to the needs of the Govt.employees at that time and has not been revised since then. However the lifestyle has changed drastically since then, therefore need was felt to revise these plinth area norms specifications keeping in mind modern household gadgets like refrigerator, washing machine, microwave, AC's etc., Car parking requirements instead of Scooter/Cycle have also increased manifold.

New trend of multistoried construction in place of Low rise construction, because of scarcity land, resulting in space crunch for certain facilities like clothes drying space. Hence a separate balcony for drying of wet clothes in the form of utility balcony has been provided in all the categories of houses in the revised plinth area norms for Type-I to Type-VIII qtrs. **The Comparison between Existing Plinth Area Norms & New Plinth Area Norms 2012 is as under:**

New Plinth Area Norms for Dwelling Units from Type- I to Type-VI and new Plinth Area Norms for Type –VII & Type VIII Quarters to be constructed for Central Govt. Employees in General Pool and its applicability to all Central Govt. Ministries / Departments shall be as per Table below;

Type	Eligibility as / Grade Pay / Fixed Pay	Area	Unit Area (Main	Stairs/ Circulation	Balcony	Utility area / Balcony	Cycle/Scooter shed/ Garage	Remarks
			Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	
Type- I		Existing	34.00	5.0	7.45	NIL	2.50	Cycle shed -100%
	Rs. 1300 - 1800	New	40.80	7.00	6.50	2.50	As /Parking Norms	
Type- II		Existing	45.00	5.0	7.45	NIL	2.50	Cycle shed -100%
	Rs. 1900 - 2800	New	54.00	7.00	6.50	2.50	As /Parking Norms	
Type- III		Existing	55.75	5.00	7.45	NIL	4.20	Scooter shed -100%
	Rs. 4200 - 4800	New	63.00	7.00	6.50	3.50	As /Parking Norms	
Type- IV		Existing	83.60	5.5	7.60	NIL	4.20	Scooter shed -100%
Main Unit Servant Qtr-1	Rs. 5400 and above	New	86.00 17.00	7.00 -	12.00 2.50	3.50	As per Parking Norms	Servant room shall be part of the house without provision of separate staircase,

								however Kitchenette & toilet be provided within the unit area specified for servant room.
Type- IV (Special)		Existing	111.48	6	8.52	NIL	4.20	Additionally covered parking space as per local master plan norms subject to minimum one car per quarter will be provided
Main Unit Servant Qtr-1	Rs. 6600 and above	New	106.00 17.00	7.00 -	12.00 2.50	3.50	As per Parking Norms	Servant room shall be part of the house without provision of separate staircase, however Kitchenette & toilet be provided within the unit area specified for servant room.
Type- V		Existing	139.35 18.60	6.00 4.50	9.85	NIL	20.90	Garage – 75%
Main Unit Servant Qtr-1	Rs. 7600 and above	New	145.00 21.50	7.00 7.00	12.00 3.50	4.50	As per Parking Norms	Independent Servant Quarter having Room, Kitchen, Toilet and separate staircase being shared by two DU's * Nos. of Quarters - 1 Nos. for TypeV
Type- VI		Existing	203.50 21.50	7.00 7.00	21.50 3.50	NIL		Garage – 75%
Main Unit Servant Quarter-1	Rs. 10000 and above	New	203.50 21.50	7.00 7.00	21.50 3.50	4.50	As per Parking Norms	Independent Servant Quarter having Room, Kitchen, Toilet and separate staircase being shared by two DU's * Nos. of Quarters - 1 Nos. for Type VI
Type- VII		Existing	There are no norms for multi-storeyed buildings.					

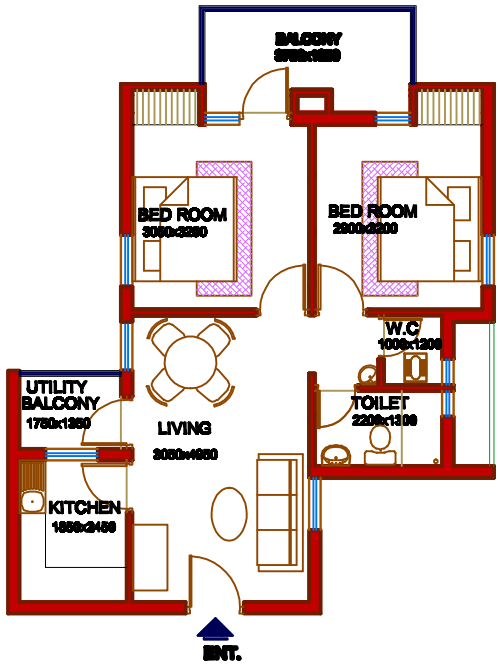
Type- VII Main Unit Servant Quarter-2	Rs. 75000 (Fixed)	New	287.00 21.50	7.00 7.00	35.00 4.00	9.00		Independent Servant Quarter having Room, Kitchen, Toilet and separate staircase being shared by two servant qtrs. * Nos. of Quarters - 2 Nos. for Type VII
Type- VIII		Existing	There are no norms for multi-storeyed buildings.					
Main Unit Servant Quarter-4	Rs. 80000 (Fixed) and above	New	403.00 21.50	7.00 3.50	45.00 4.00	12.00		Independent Servant Quarter having Room, Kitchen, Toilet and separate staircase being shared by four servant qtrs. * Nos. of Quarters - 4 Nos. for Type VIII

For multistoried flats, where the provision of lifts and lift lobbies, wider staircase, additional Fire Escape staircases and extra space for their entry is necessary, additional area over and above the standard plinth area have been provide in all the categories of houses in the revised plinth area norms for Type-I to Type-VIII qtrs.

After lot of deliberations enhanced Plinth Area Norms for various categories/type of quarters i.e. Type I to Type VIII & specifications have been finalized and approved by MOUD. Complete proposal of Revised Plinth Area norms & specifications is uploaded on the website of CPWD.

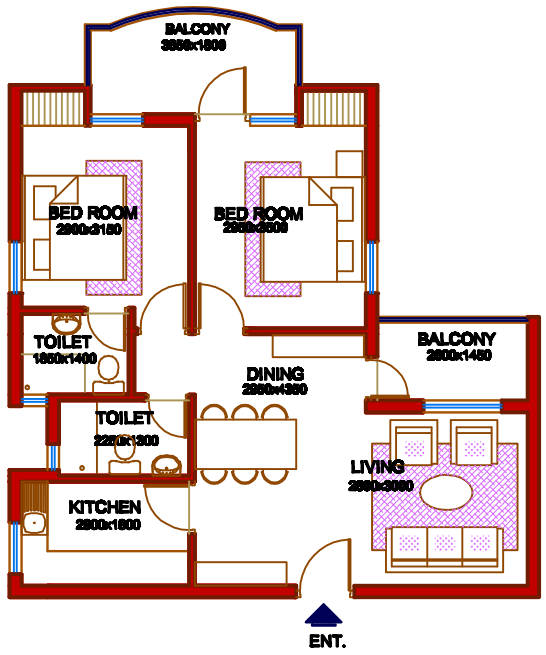
UNIT DESIGN (TYPICAL) FOR TYPE- II QRTS

(AS PER NEW NORMS)



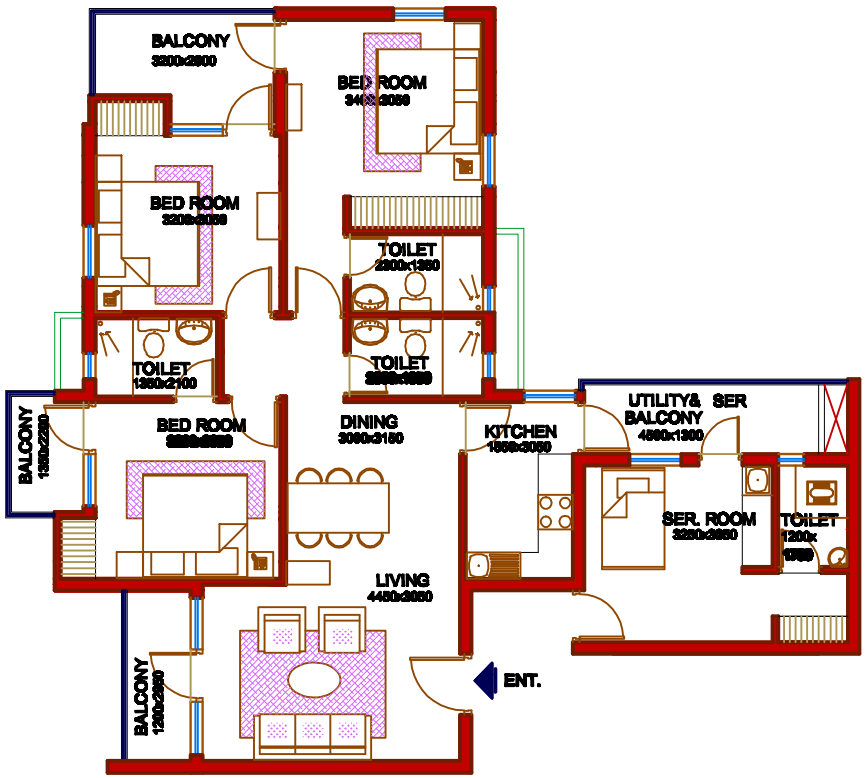
UNIT DESIGN (TYPICAL) FOR TYPE- III QRTS

(AS PER NEW NORMS)



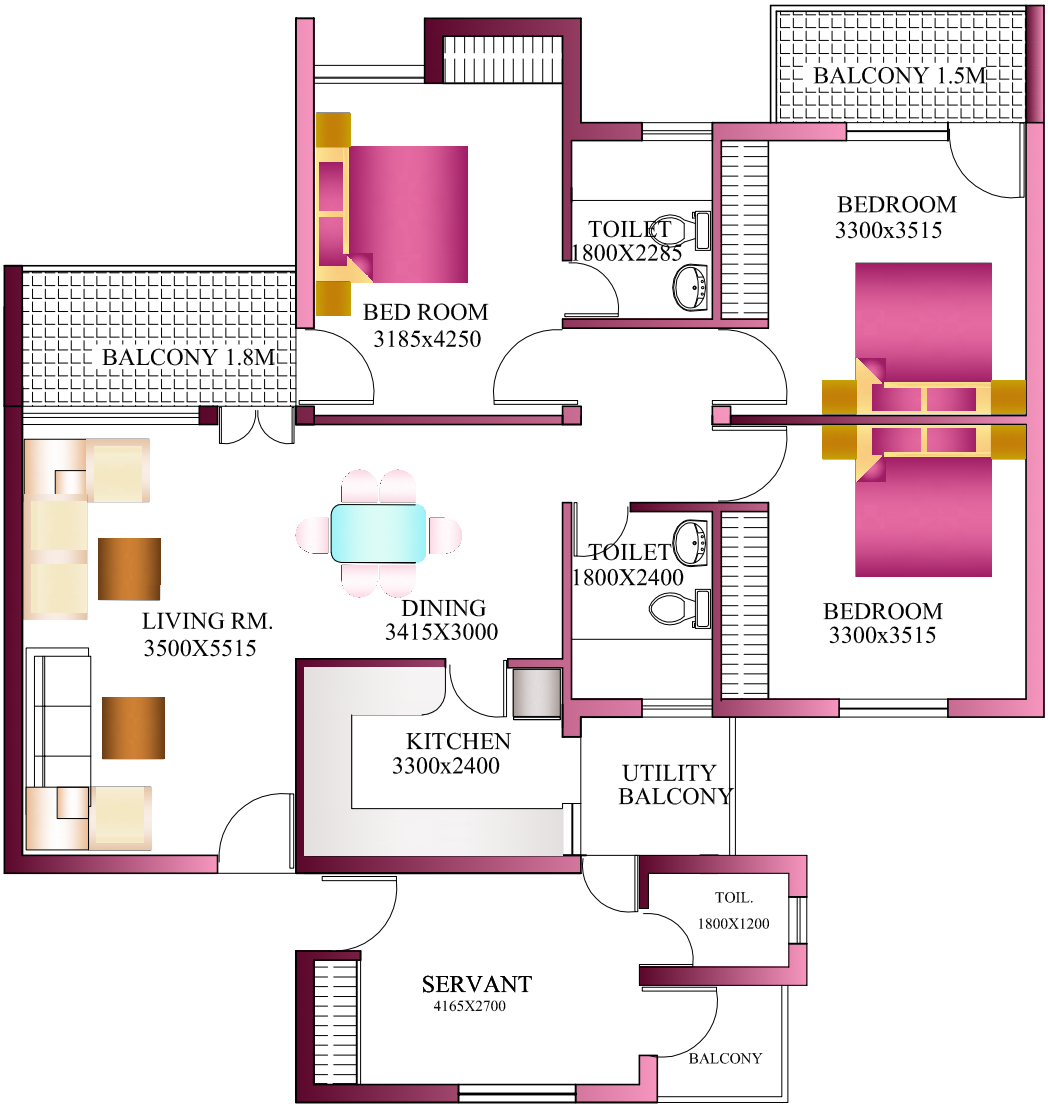
UNIT DESIGN (TYPICAL) FOR TYPE- IV QRTS

(AS PER NEW NORMS)



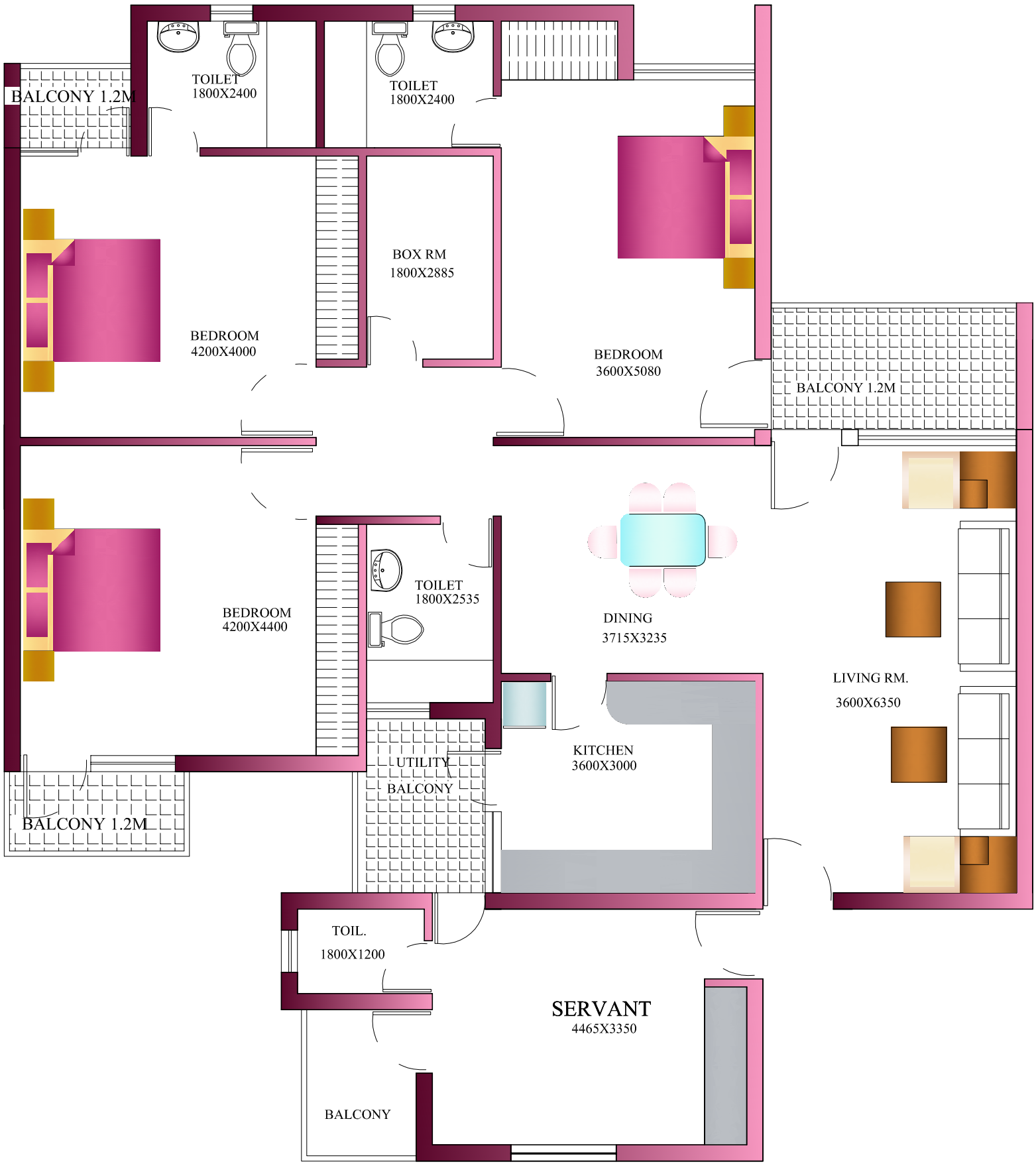
UNIT DESIGN FOR TYPE -4S QRTS.(TYPICAL)

AS PER NEW NORMS



UNIT DESIGN FOR TYPE-V QRTS. (TYPICAL)

AS PER NEW NORMS

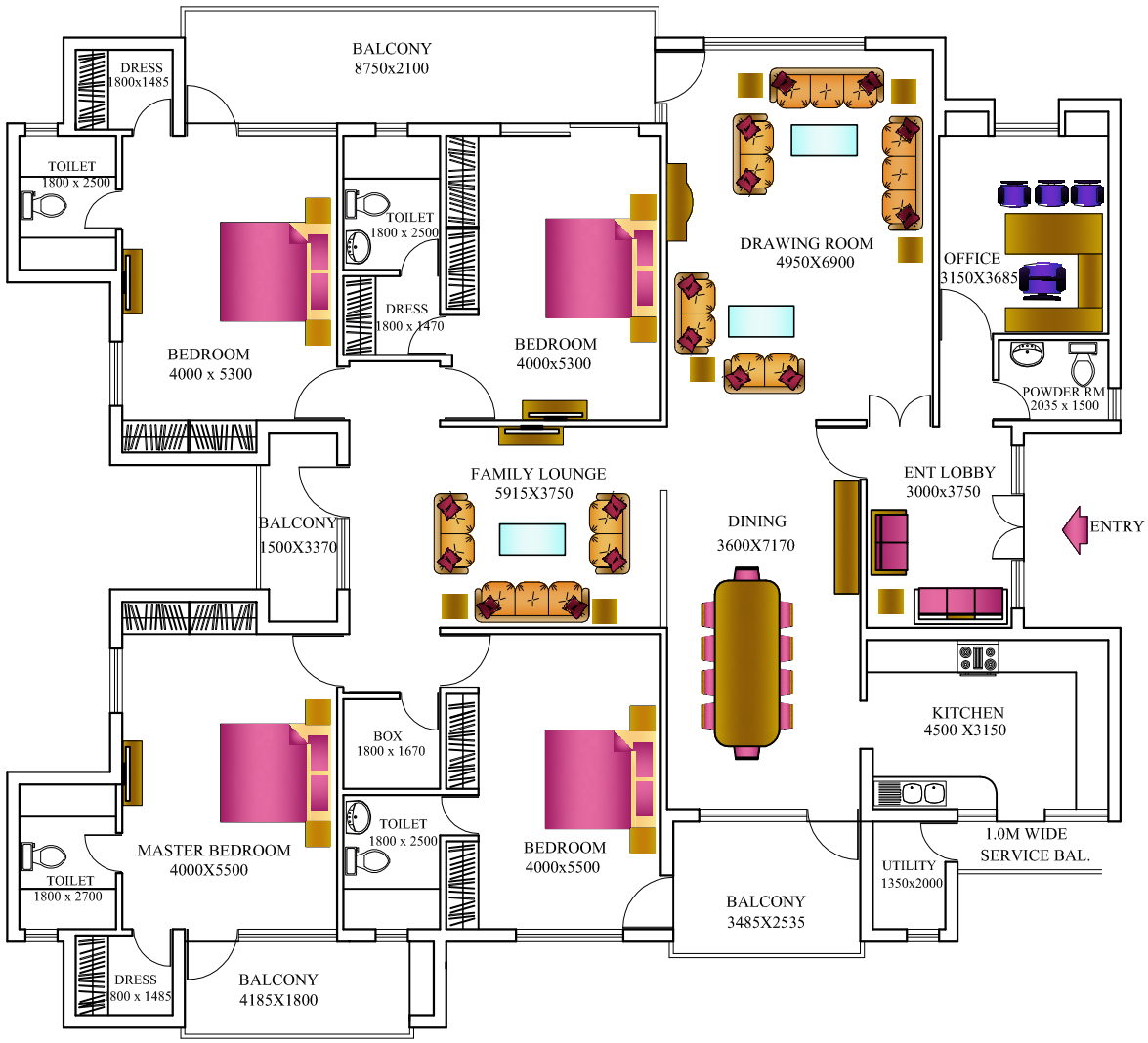


UNIT DESIGN FOR TYPE-VI QRTS.(TYPICAL)

AS PER NEW NORMS

UNIT DESIGN FOR TYPE-VII QRTS. (TYPICAL)

AS PER NEW NORMS



UNIT DESIGN FOR TYPE-VIII QRTS. (TYPICAL)

AS PER NEW NORMS